

INFECTIOUS DISEASES OF GAMBIA



Stephen Berger, MD

gideon 
E-BOOK SERIES

2018 Edition

Infectious Diseases of Gambia - 2018 edition

Stephen Berger, MD

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Scope of Content

Disease designations may reflect a specific pathogen (ie, Adenovirus infection), generic pathology (Pneumonia - bacterial) or etiologic grouping (Cotiviruses - Old world). Such classification reflects the clinical approach to disease allocation in the Infectious Diseases Module of the GIDEON web application. Similarly, a number of diseases which are generally diagnosed and treated outside of the field of Infectious Diseases are not included, despite the fact that a clear infectious etiology exists. Examples include Peptic ulcer, Creutzfeldt-Jakob disease, Human papillomavirus infections, etc. In contrast, a number of other entities of unknown etiology which do present to Infectious Diseases specialists have been included: Kawasaki's disease, Chronic fatigue syndrome, Kikuchi and Kimura diseases. Several minor infections having minimal relevance to the field of Infectious Diseases are not covered: Paronychia, Otitis externa, etc.

Introduction: The GIDEON e-book series

Infectious Diseases of Gambia is one in a series of GIDEON [ebooks](#) which summarize the status of Infectious diseases, Drugs, Vaccines and Pathogens in every country of the world.

Chapters are arranged alphabetically, by disease name. Each section is divided into three sub-sections:

1. Descriptive epidemiology
2. Status of the disease in Gambia
3. References

The initial items in the first section, Descriptive epidemiology, are defined as follows:

Agent	Classification (e.g., virus, parasite) and taxonomic designation.
Reservoir	Any animal, arthropod, plant, soil or substance in which an infectious agent normally lives and multiplies, on which it depends primarily for survival, and where it reproduces itself in such a manner that it can be transmitted to a susceptible host.
Vector	An arthropod or other living carrier which transports an infectious agent from an infected organism or reservoir to a susceptible individual or immediate surroundings.
Vehicle	The mode of transmission for an infectious agent. This generally implies a passive and inanimate (i.e., non-vector) mode.

A chapter outlining the routine vaccination schedule of Gambia follows the diseases chapters.

Content

There are 357 generic infectious diseases in the world today. 219 of these are endemic, or potentially endemic, to Gambia. A number of other diseases are not relevant to Gambia and have not been included in this book.

In addition to endemic diseases, we have included all published data regarding imported diseases and infection among expatriates from Gambia.

Sources

Data are based on the GIDEON web application (www.gideononline.com) which relies on standard text books, peer-review journals, Health Ministry reports and ProMED, supplemented by an ongoing search of the medical literature.

The availability and quality of literature regarding specific infectious diseases vary from country to country. As such, you may find that many of the sections in this book are limited to a general discussion of the disease itself - with no data regarding Gambia.

This is a book about the geography and epidemiology of Infection. Comprehensive and up-to-date information regarding the causes, diagnosis and treatment of each disease is available in the [GIDEON web application](#). Many of the diseases are generic. For example, such designations as Pneumonia bacterial and Urinary tract infection include a number of individual diseases. These appear under the subheading, Synonyms, listed under each disease.

Exploring Outbreaks and Surveys

Outbreak and survey charts are designed to allow users to quickly scan and compare publications according to year, setting, number of cases / deaths, affected population and other parameters. Linked references are displayed where available.

Parallel charts in the [GIDEON web app](#) allow for sorting within columns. In the following example, data are displayed alphabetically by outbreak setting or region.

Years	Region	Setting	Cases	Deaths	Source	Pathogen	Years	Region	Setting	Cases	Deaths	Source	Pathogen
1990	Alberta						2013*		airplane			eggs	Heidelberg
1999	Alberta		12		pet food	infantis	1966		bar mitzvah	34		fish	Java
2004	Alberta	restaurant	31			Heidelberg	1984	Ontario	day nursery	22			typhimurium
2010 to 2011	Alberta		91		food	enteritidis	1992*	Ontario	hospital				enteritidis
1960	British Columbia		65				1997*	Montreal	hotel				enteritidis PT 8
1985 to 1986	British Columbia		13		chocolate	nima	1982	Quebec	nursery			milk	typhimurium
1995 to 1996	British Columbia		133		sprouts	Newport	1983 to 1986	Halifax	nursing home	51			Newport
2000	British Columbia		47		baked goods	enteritidis	2011	New Brunswick	nursing home	7	1		
2000	British Columbia		62		eggs		1999	Edmonton	restaurant	27			typhimurium
2005*	British Columbia				baked goods		2001	multiple sites	restaurant	12		sprouts	enteritidis PT 11b
2008	British Columbia		64				2004	Alberta	restaurant	31			Heidelberg
2011	British Columbia		8			agbeni	2005	Ontario	restaurant	81			
							2016	Toronto	restaurant	43			
							2012	Ontario	school	46		catered food	
							2007	Ontario	university	85		food	typhimurium PT 108

We welcome feedback, and will be pleased to add any relevant, sourced material. Email us at ebook@gideononline.com

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* Not endemic. Imported, expatriate or other context reported.

⁺ Country specific note exists for disease

Acanthocephalan infections

Agent	PARASITE - Archiacanthocephala. Moniliformida: <i>Moniliformis moniliformis</i> , Oligocanthonynchida: <i>Maracanthorhynchus hirudinaceus</i> .
Reservoir	Pig (<i>Maracanthorhynchus</i>), rat and fox (<i>Moniliformis</i>),
Vector	None
Vehicle	Insect ingestion
Incubation Period	Unknown - presumed 15 to 40 days
Diagnostic Tests	Identification of worm in stool.
Typical Adult Therapy	Infection is usually self-limited. Pyrantel pamoate has been used against <i>Moniliformis moniliformis</i> - 11 mg/kg PO - repeat once in 2 weeks
Typical Pediatric Therapy	Infection is usually self-limited. Pyrantel pamoate has been used against <i>Moniliformis moniliformis</i> - 11 mg/kg PO - repeat once in 2 weeks
Clinical Hints	- Most infections are characterized by asymptomatic passage of a worm - In some cases, only vague complaints such as 'perumbilical discomfort' and 'giddiness' have been described
Synonyms	Corynosoma, Macracanthorhynchus, Moniliform acanthocephalan, <i>Moniliformis moniliformis</i> . ICD9: 128.9 ICD10: B83.8

Actinomycosis

Agent	BACTERIUM. Actinomycetes, <i>Actinomyces</i> spp. Anaerobic gram-positive bacillus
Reservoir	Human (oral, fecal and vaginal flora)
Vector	None
Vehicle	Endogenous
Incubation Period	Unknown
Diagnostic Tests	Gram stain and bacteriological culture using strict anaerobic technique. Growth is apparent in 3-7 days.
Typical Adult Therapy	Ampicillin 50 mg/kg/day IV X 4 to 6 weeks - then Amoxicillin 1.5 g/d PO X 6 months. OR Penicillin G 10 to 20 million units/day X 4 to 6w; then Penicillin V X 6 to 12m. Alternatives: Doxycycline , Ceftriaxone , Erythromycin Excision/drainage
Typical Pediatric Therapy	Ampicillin 50 mg/kg/day IV X 4 to 6 weeks - then Amoxicillin 20 mg/kg/day PO X 6 months. Penicillin G 100,000 units/kg/day X 4 to 6w; then Penicillin V 25,000 units/day X 6 to 12m. Excision/drainage
Clinical Hints	- Mandibular osteomyelitis with fistulae (sulfur granules) in the setting of poor dental hygiene - Pelvic abscesses in a women with intra-uterine device - Fever, right lower quadrant mass and fistulae - Suppurative pleuropulmonary infection with fistulae
Synonyms	Actinomyces, Aktinomykose, Lumpy jaw. ICD9: 039. ICD10: A42

Adenovirus infection

Agent	VIRUS - DNA. Adenoviridae, Adenovirus Enteric strains are classified in genus Mastadenovirus
Reservoir	Human, Non-human primates
Vector	None
Vehicle	Droplet, Water, Respiratory or pharyngeal acquisition
Incubation Period	4d - 12d
Diagnostic Tests	Viral culture/serology or antigen assay. Direct fluorescence of secretions. Nucleic acid amplification.
Typical Adult Therapy	Enteric/secretion precautions. Cidofovir has been used in some cases. Symptomatic therapy
Typical Pediatric Therapy	As for adult
Vaccine	Adenovirus vaccine
Clinical Hints	- Generally, an uncomplicated illness lasting 3 to 5 days - Atypical pneumonia, upper respiratory infection, tracheitis, bronchiolitis - Keratoconjunctivitis with preauricular adenopathy - Gastroenteritis or hemorrhagic cystitis
Synonyms	Adenovirus gastroenteritis, Epidemic keratoconjunctivitis, Pharyngoconjunctival fever. ICD9: 047.9,077.1,077.2,008.62,480.0 ICD10: A08.2,B30.1,B34.0,J12.0

Aeromonas and marine Vibrio infx.

Agent	BACTERIUM. <i>Aeromonas hydrophila</i> , <i>Vibrio vulnificus</i> , et al Facultative gram-negative bacilli
Reservoir	Salt or brackish water, Fish
Vector	None
Vehicle	Water, Shellfish, Contact
Incubation Period	Range 2d - 7d
Diagnostic Tests	Culture. Notify laboratory if these organisms are suspected in stool.
Typical Adult Therapy	Fluoroquinolone or Sulfamethoxazole / Trimethoprim . Other antimicrobial agent as determined by susceptibility testing
Typical Pediatric Therapy	Sulfamethoxazole / Trimethoprim . Or other antimicrobial agent as determined by susceptibility testing
Clinical Hints	- Disease follows marine injury or ingestion of raw oysters / contaminated fresh or brackish water - Diarrhea, fever, vomiting or sepsis - Fecal leukocytes present - Severe or fatal in immunosuppressed or alcoholic patients
Synonyms	Aeromonas, Aeromonas hydrophila, Vibrio mimicus, Vibrio vulnificus. ICD9: 005.81,027.9 ICD10: A48.8

African tick bite fever

Agent	BACTERIUM. Rickettsiales: <i>Rickettsia africae</i>
Reservoir	Sheep, Goat, Cattle, Tick
Vector	Tick (<i>Rhipicephalus, Haemaphysalis, Amblyomma</i>)
Vehicle	None
Incubation Period	6d - 7d (range 3d - 18d)
Diagnostic Tests	Serology. Demonstration of rickettsiae by immunofluorescence or culture. Nucleic acid amplification
Typical Adult Therapy	Doxycycline 100 mg PO BID X 3 to 5d. OR Chloramphenicol 500 mg PO QID X 3 to 5d
Typical Pediatric Therapy	Doxycycline 2 mg/kg PO BID X 3 to 5d (maximum 200 mg/day). OR Chloramphenicol 10 mg/kg PO QID X 3 to 5d
Clinical Hints	- Fever and rash following a tick bite In contrast to Mediterranean spotted fever: - Multiple eschars may be present - The rash is vesicular, and is present in only 30% of patients
Synonyms	Rickettsia africae, South African spotted fever. ICD9: 082.1 ICD10: A77.1

African tick bite fever in Gambia

One case was confirmed during 1996 to 2000.

Amoeba - free living

Agent	PARASITE - Protozoa. Centramoebida, Acanthamoebidae: <i>Acanthamoeba</i> and <i>Balamuthia</i> Schizopyrenida, Vahlkampfidae: <i>Naegleria</i>
Reservoir	Water, Soil
Vector	None
Vehicle	Water (diving, swimming), Contact
Incubation Period	5d - 6d (range 2d - 14d) Granulomatous ? to 2m
Diagnostic Tests	Wet preparation. Specialized cultures. Serology available in reference centers.
Typical Adult Therapy	CNS <i>Naegleria</i> : Amphotericin B to 1 mg/kg/d IV + 1.5 mg intrathec. X 8 days; + Miconazole 350 mg/sq m/d IV + 10 mg intrathec. qod X 8d <i>Acanthamoeba</i> : Sulfonamides + Flucytosine Miltefosine some cases of <i>Acanthamoeba</i> / <i>Balamuthia</i>
Typical Pediatric Therapy	CNS <i>Naegleria</i> : Amphotericin B to 1 mg/kg/d IV + 1.5 mg intrathecal X 8 days; plus Miconazole 350 mg/sq m/d IV + 10 mg intrathecal qod X 8d <i>Acanthamoeba</i> : Sulfonamides + Flucytosine Miltefosine successful in some cases of <i>Acanth.</i> / <i>Balamuthia</i> enceph.
Clinical Hints	- Severe, progressive meningoencephalitis (<i>Naegleria</i> , <i>Acanthamoeba</i> or <i>Balamuthia</i>) after swimming or diving in fresh water - Keratitis (<i>Acanthamoeba</i>), associated with contaminated solutions used to clean contact lenses
Synonyms	Acanthamoben, Acanthamoeba, Allovahlkampfia, Amebic keratitis, Balamuthia, Balmuthia, Dictyostelium, Free-living ameba, Leptomyxid ameba, Naegleria, Paravahlkampfia, Primary amebic meningoencephalitis, Sappinia, Vahlkampfia. ICD9: 136.2 ICD10: B60.1,B60.2

Amoeba - free living in Gambia

Cross-border events

Years	Acquired by **	Originated in **	Setting	Cases	Deaths	Notes
2013	Netherlands	Gambia	travel	1	1	<i>Balamuthia mandrillaris</i> was identified. 1

** Country or Nationality

References

1. [Emerg Infect Dis 2015 May ;21\(5\):896-8.](#)

Amoebiasis

Agent	PARASITE - Protozoa. Sarcomastigota, Entamoebidae: <i>Entamoeba histolytica</i> (must be distinguished from non-invasive, <i>Entamoeba dispar</i>)
Reservoir	Human
Vector	Fly (Musca) - occasionally
Vehicle	Food, Water, Sexual contact, Fly
Incubation Period	1w - 3w (range 3d - 90d)
Diagnostic Tests	Fresh stool/aspirate for microscopy. Stool antigen assay. Stool PCR. Note: serological tests usually negative.
Typical Adult Therapy	Metronidazole 750 mg PO TID X 10d Follow with: Paromomycin 500 mg PO TID X 7d OR Iodoquinol 650 mg PO TID X 20d
Typical Pediatric Therapy	Metronidazole 15 mg/kg TID X 10d Follow with: Paromomycin 10 mg/kg PO TID X 7d OR Iodoquinol 10 mg/kg PO TID X 20d
Clinical Hints	- Dysentery, abdominal pain, tenesmus. - Unlike shigellosis, hyperemia of the rectal mucosa and fecal pus are absent. - Liver abscess and dysentery rarely coexist in a given patient
Synonyms	Amebiasis, Amebiasis intestinal, Amebic colitis, Amebic dysentery, Amoebenruhr, Entamoeba bangladeshi, Entamoeba gingivalis, Entamoeba moshkovskii. ICD9: 006.0,006.1,006.2 ICD10: A06.0,A06.1,A06.2

Amoebiasis in Gambia

Prevalence surveys

Years	Region	Study Group	%	Notes
2015*	Kiang West Province	food handlers	14.8	14.8% of food handlers in Kiang West Province ¹
2015*		general population	13.7	13.7% of the up-country population in the dry season
1977*	Costal Region	general population	52.3	52.3% of populations near the coast ²

* indicates publication year (not necessarily year of survey)

References

1. *Trans R Soc Trop Med Hyg* 2015 May ;109(5):334-9.
2. *Trans R Soc Trop Med Hyg* 1977 ;71(5):401-7.

Amoebic abscess

Agent	PARASITE - Protozoa. Sarcomastigota, Entamoebidae: <i>Entamoeba histolytica</i> (must be distinguished from non-invasive, <i>Entamoeba dispar</i>)
Reservoir	Human
Vector	Fly (Musca) - occasionally
Vehicle	Food, Water, Sexual contact, Fly
Incubation Period	2w - 6m (rarely years; 95% within 6m)
Diagnostic Tests	Imaging. Serology. Nucleic acid amplification. Note: Amoebae are usually not present in stool at this stage.
Typical Adult Therapy	Metronidazole 750 mg TID X 10d OR Tinidazole 800 mg TID X 5d
Typical Pediatric Therapy	Metronidazole 15 mg/kg TID X 10d OR Tinidazole 15 to 20 mg/kg TID X 5d
Clinical Hints	- Fever, local pain and weight loss - Concurrent amebic colitis is usually not present. - Typically a single abscess in the right hepatic lobe (bacterial abscesses may be multiple)
Synonyms	Absceso amebiano, Amebic liver abscess. ICD9: 006.3,006.4,006.5,006.6,006.8 ICD10: A06.4,106.5,A06.7,106.8

Amoebic abscess in Gambia

Epidemiological data regarding Amebic abscess are included in the notes for Amebic colitis

Animal bite-associated infection

Agent	BACTERIUM. <i>Pasteurella multocida</i> , and other zoonotic bite pathogens
Reservoir	Cat, Dog, Marsupial, Other mammal, Rarely bird
Vector	None
Vehicle	Bite (cat in 60%, dog in 30%), No obvious source in 10%
Incubation Period	3h - 3d
Diagnostic Tests	Gram stain/culture. Hold specimen for 2 weeks to discount Capnocytophaga & other genera.
Typical Adult Therapy	Penicillin, a Tetracycline or Cefuroxime . Dosage and duration appropriate for nature and severity of infection
Typical Pediatric Therapy	Penicillin or Cefuroxime . Dosage and duration appropriate for nature and severity of infection
Clinical Hints	- Infection of cat- dog- or other bite wound; however, as many as 10% do not recall the bite - Symptoms appear within 3 to 72 hours - Systemic infection (meninges, bone, lungs, joints, etc) may occur
Synonyms	Bacteroides pyogenes, Bacteroides tectus, Bergeyella zoohelcum, Bisgaard's taxon 16, Capnocytophaga canimorsus, Capnocytophaga cynodegmi, CDC EF-4, CDC NO-1, Corynebacterium kutscheri, Corynebacterium canis, Corynebacterium freiburgense, Fusobacterium canifelinum, Halomonas venusta, Kingella potus, Moraxella canis, Mycobacterium vulneris, Neisseria animaloris, Neisseria canis, Neisseria weaveri, Neisseria zoodegmatis, Pasteurella caballi, Pasteurella canis, Pasteurella dagmatis, Pasteurella multocida, Pasteurella stomatis, Psychrobacter immobilis, Seal finger, Staphylococcus intermedius, Vibrio harveyi. ICD9: 027.2 ICD10: A28.0

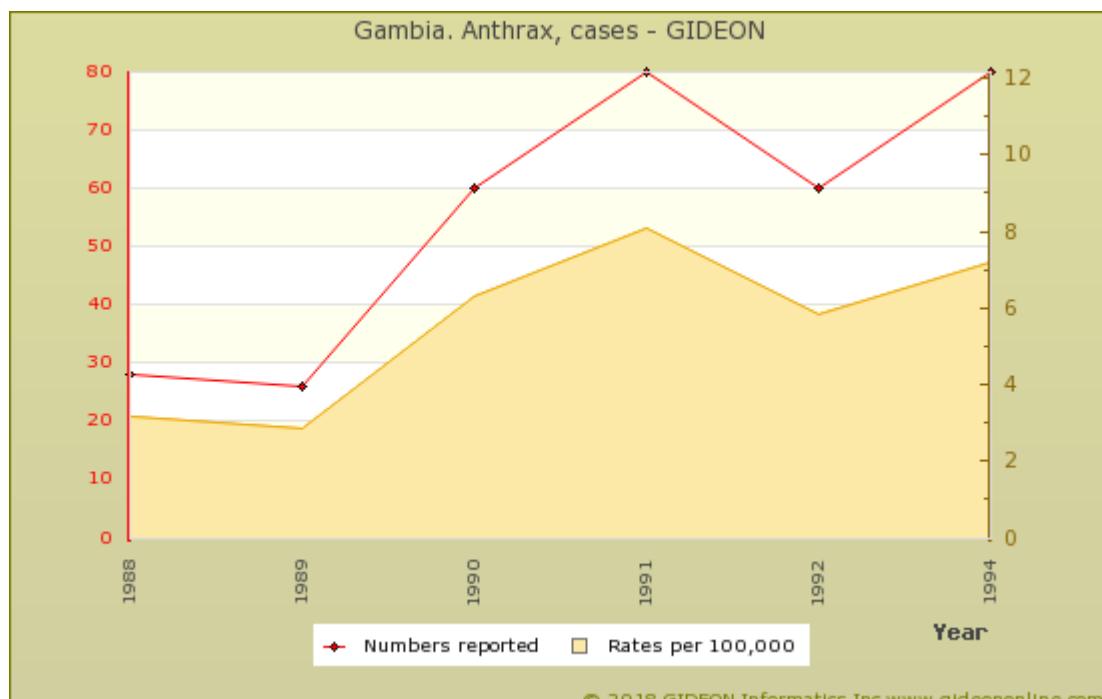
Anisakiasis

Agent	PARASITE - Nematoda. Secernentea: <i>Anisakis simplex</i> and <i>Pseudoterranova decipiens</i>
Reservoir	Marine mammals Fish
Vector	None
Vehicle	Undercooked fish
Incubation Period	Hours - 14d
Diagnostic Tests	Endoscopic identification of larvae.
Typical Adult Therapy	Endoscopic removal of larvae; surgery for complications
Typical Pediatric Therapy	As for adult
Clinical Hints	Follows ingestion of undercooked fish (e.g., sushi), squid or octopus May present as - Generalized allergic reaction, or - Acute and chronic abdominal pain, often with "peritoneal signs" or hematemesis
Synonyms	Anasakis, Bolbosoma, Cod worm disease, Contracaecum, Eustrongylides, Herring worm disease, Hysterothylacium, Pseudoterranova, Whalworm. ICD9: 127.1 ICD10: B81.0

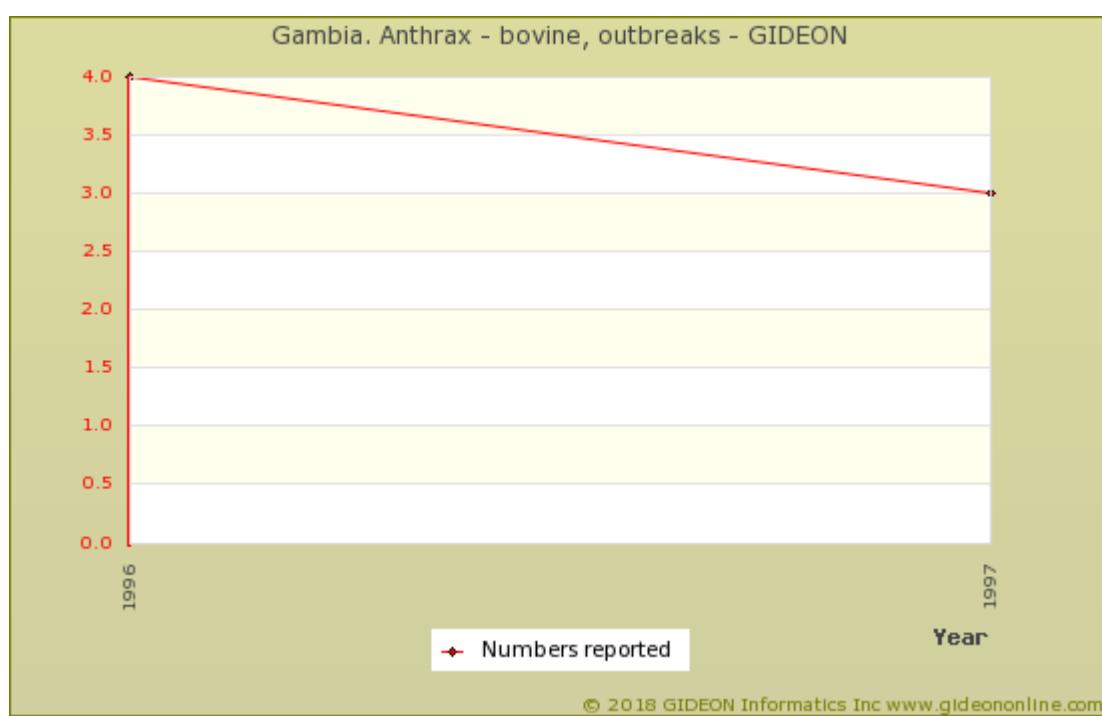
Anthrax

Agent	BACTERIUM. <i>Bacillus anthracis</i> An aerobic gram positive bacillus
Reservoir	Soil, Goat, Cattle, Sheep, Water, Horse
Vector	Fly (rare)
Vehicle	Hair, Wool, Hides, Bone products, Air, Meat, Contact, Respiratory or pharyngeal acquisition
Incubation Period	1d-7d; 1-12 cutaneous, 1-7 GI; 1-43 pulmonary
Diagnostic Tests	Bacteriological culture. Alert laboratory that organism may be present. Serology and rapid tests by Ref. Centers.
Typical Adult Therapy	Isolation (secretions). <i>Ciprofloxacin</i> (or Penicillin if susceptible). If systemic infection, add <i>Meropenem</i> (or <i>Imipenem</i>) + <i>Linezolid</i> (or <i>Rifampin</i> or <i>Clindamycin</i>) Dosage/route/duration as per severity If inhalational anthrax, add Raxibacumab
Typical Pediatric Therapy	As for adult
Vaccine	Anthrax vaccine
Clinical Hints	Acquired from contact with large mammals or their products (meat, wool, hides, bone). Anthrax may present at dermal, pulmonary, gastrointestinal or other forms depending of site of inoculation. - Edematous skin ulcer covered by black eschar - satellite vesicles may be present - Fulminant gastroenteritis or pneumonia - Necrotizing stomatitis - Hemorrhagic meningitis
Synonyms	Antrace, Antrax, Antraz, Bacillus cereus biovar anthracis, Carbunculo, Carbunculo, La fievre charbonneuse, Malcharbon, Malignant pustule, Miltbrann, Miltvuur, Milzbrand, Mjaltbrand, Siberian plague, Siberian ulcer, Splenic fever, Wool-sorter's disease. ICD9: 022 ICD10: A22

Anthrax in Gambia



Graph: Gambia. Anthrax, cases



Graph: Gambia. Anthrax - bovine, outbreaks

[Gambia. Anthrax - bovine

Ascariasis

Agent	PARASITE - Nematoda. Secernentea: <i>Ascaris lumbricoides</i>
Reservoir	Human, Dog
Vector	None
Vehicle	Vegetables, Fly
Incubation Period	10d - 14d (range 7d - >200d)
Diagnostic Tests	Stool microscopy.
Typical Adult Therapy	Mebendazole 500 mg BID X 1 dose OR Albendazole 400 mg X 1 dose
Typical Pediatric Therapy	Albendazole 200 mg PO single dose OR Mebendazole 100 mg BID X 3 d (> age 2).
Clinical Hints	- Highest rates among children and in areas of crowding and poor sanitation - Acute illness characterized by cough, wheezing and eosinophilia - Adult worms are associated with abdominal pain (occasionally obstruction), pancreatic or biliary disease - Passage of a roundworm longer than 5 cm is virtually pathognomonic
Synonyms	Ascaris, Ascaris lumbricoides, Askariasis. ICD9: 127.0 ICD10: B77

Ascariasis in Gambia

Prevalence surveys

Years	Study Group	%	Notes
1995*	general population	25	25% of individuals in rural Gambia ¹

* indicates publication year (not necessarily year of survey)

References

1. [East Afr Med J 1995 Aug ;72\(8\):527-30.](#)

Aspergillosis

Agent	FUNGUS. Ascomycota, Euascomycetes, Eurotiales: <i>Aspergillus</i> . A hyaline hyphomycete
Reservoir	Compost, Hay, Cereal, Soil
Vector	None
Vehicle	Air, Respiratory or pharyngeal acquisition
Incubation Period	3d - 21d
Diagnostic Tests	Fungal culture. Biopsy. Nasal culture or serologic testing may be useful in select cases.
Typical Adult Therapy	Voriconazole 6 mg/kg IV Q12h, day 1; follow with 4 mg/kg IV OR Amphotericin B - if invasive, rapidly increase to max dose 0.6 mg/kg/d and to total 2.5g. OR Itraconazole
Typical Pediatric Therapy	Voriconazole 3 to 9 mg/kg IV Q12h OR Amphotericin B - if invasive, rapidly increase to max dose 0.6 mg/kg/d X 6w. OR Itraconazole
Clinical Hints	- Pulmonary "fungus ball" or adult-onset asthma - Pulmonary consolidation or infected "pulmonary infarct" in the setting of immune suppression (e.g., AIDS, leukemia, etc) - May progress to widespread hematogenous dissemination if not treated promptly
Synonyms	Aspergillose, Aspergillus. ICD9: 117.3 ICD10: B44

Bacillary angiomatosis

Agent	BACTERIUM. <i>Bartonella henselae</i> or <i>Bartonella quintana</i> . Rickettsia-like bacteria
Reservoir	Human, Tick, Cat
Vector	Cat flea, Tick (Ixodid)
Vehicle	None
Incubation Period	Unknown
Diagnostic Tests	Histology with special stains. Specialized culture techniques. Serology. Nucleic acid amplification.
Typical Adult Therapy	Clarithromycin 500 mg BID X 3 months Alternatives Azithromycin 250 mg QD Ciprofloxacin 500 mg BID OR Doxycycline 100 mg BID Erythromycin 500 mg po QID
Typical Pediatric Therapy	Clarithromycin 7.5 mg/kg PO BID X 8 months. OR Gentamicin 2 mg/kg IMq12h
Clinical Hints	- Virtually all cases occur in the setting of AIDS or other immune deficiency - Hemangiomatous papules and nodules of skin, spleen, liver (peliosis hepatitis), bone or other tissues - Rare instances are reported following tick bite in immune-competent individuals
Synonyms	Bacillary peliosis, Peliosis hepatitis. ICD9: 757.32,083.8 ICD10: K76.4,A44.0

Bacillus cereus food poisoning

Agent	BACTERIUM. <i>Bacillus cereus</i> (toxin). An aerobic gram-positive bacillus
Reservoir	Soil, Processed & dried foods
Vector	None
Vehicle	Food
Incubation Period	2h - 9h (range 1h - 24h)
Diagnostic Tests	No practical test available. Isolation of organism from suspect food.
Typical Adult Therapy	Supportive
Typical Pediatric Therapy	As for adult
Clinical Hints	- Usually follows ingestion of rice or other vegetables - Vomiting within 1 to 6 hours and/or diarrhea within 6 to 24 hours - Fecal leukocytes are not seen
Synonyms	Bacillus cytotoxicus. ICD9: 005.89 ICD10: A05.4

Bacterial vaginosis

Agent	BACTERIUM. <i>Gardnerella vaginalis</i> (facultative gram-negative bacillus), <i>Mobiluncus curtisi</i> , <i>Mobiluncus mulieris</i> , <i>Prevotella</i> , et al
Reservoir	Human
Vector	None
Vehicle	Sexual contact, Normal flora in 14% (girls) to 70% (women)
Incubation Period	Unknown
Diagnostic Tests	Identification of "clue cells" or positive KOH test in vaginal discharge. Culture.
Typical Adult Therapy	Metronidazole 500 mg BID X 7d OR Tinidazole 2 g PO daily X 3d OR Secnidazole 2 g PO X 1 dose OR Clindamycin 300 mg BID X 7d + intravaginal Clindamycin or Metronidazole ? Also treat sexual partner
Typical Pediatric Therapy	Metronidazole 7.5 mg/kg BID X 7d
Clinical Hints	- Thin vaginal discharge - "fishy" odor when mixed with KOH - Mild to moderate pruritis - Urethritis may be present in sexual partner
Synonyms	<i>Gardnerella</i> , <i>Gardnerella vaginalis</i> , <i>Mobiluncus</i> . ICD9: 041.89,616,10,099.8 ICD10: N76.1

Balantidiasis

Agent	PARASITE - Protozoa. Ciliate (Ciliophora), Litostomatea: <i>Balantidium coli</i>
Reservoir	Pig, Non-human primate, Rodent
Vector	None
Vehicle	Water, Food
Incubation Period	1d - 7d (range 1d - 60d)
Diagnostic Tests	Microscopy of stool or colonic aspirates.
Typical Adult Therapy	Tetracycline 500 mg QID X 10d. OR Metronidazole 750 mg TID X 5d. OR Iodoquinol 650 mg TID X 20d
Typical Pediatric Therapy	Age >= 8 years: Tetracycline 10 mg/kg QID (max 2g/d) X 10d. Age <8 yrs, Metronidazole 15 mg/kg TID X 5d; or Iodoquinol 13 mg/kg TID X 20d
Clinical Hints	- The disease is most common in pig-raising areas - Dysentery, often with vomiting - Mimics intestinal amebiasis - Symptoms may persist for one to four weeks, and may recur
Synonyms	Balantidiose, Balantidiosis, <i>Balantidium coli</i> , Balantidosis, Balindosis, Ciliary dysentery. ICD9: 007.0 ICD10: A07.0

Bartonellosis - cat borne

Agent	BACTERIUM. <i>Afipia felis</i> , <i>Bartonella henselae</i> , <i>Bartonella clarridgeiae</i> , <i>Bartonella grahamii</i> , et al. A facultative gram-negative coccobacillus
Reservoir	Cat, Possibly tick
Vector	Cat flea (<i>Ctenocephalides</i>)
Vehicle	Cat scratch, Plant matter (thorn, etc)
Incubation Period	3d - 14d
Diagnostic Tests	Visualization of organisms on Warthin Starry stain. Culture. Serology. Nucleic acid amplification.
Typical Adult Therapy	Aspiration of nodes as necessary. Azithromycin 500 mg day 1, then 250 daily X 4 days Alternatives: Clarithromycin , Ciprofloxacin , Sulfamethoxazole / Trimethoprim
Typical Pediatric Therapy	Aspiration of nodes as necessary. Azithromycin 10 mg/kg day 1, then 5 mg/kg daily X 4 days
Clinical Hints	- Tender suppurative regional adenopathy following a cat scratch (usually kitten) - Fever present in 25% - Systemic infection (liver, brain, endocardium, bone, etc) occasionally encountered - Most cases resolve within 6 weeks.
Synonyms	Afipia felis, <i>Bartonella clarridgeiae</i> , <i>Bartonella grahamii</i> , <i>Bartonella henselae</i> , <i>Bartonella koehlerae</i> , Cat scratch disease, Debre's syndrome, Foshay-Mollaret cat-scratch fever, Katszenkratz-Krankheit, Petzetakis' syndrome, SENLAT. ICD9: 078.3 ICD10: A28.1

Bartonellosis - other systemic

Agent	BACTERIUM. <i>Bartonella quintana</i> , <i>B. koehlerae</i> , <i>B. elizabethae</i> , <i>B. tamiae</i> , <i>B. washoensis</i> , etc A fastidious gram-negative coccobacillus
Reservoir	Human, Louse, Rat Cat Dog Sheep
Vector	Louse (<i>Pediculus</i>) Flea (<i>Ctenocephalides</i> , <i>Pulex</i>), Mite (<i>Dermanyssus</i>)
Vehicle	Wound or eye contact with secretions/louse feces
Incubation Period	9d - 25d (range 4d - 35d)
Diagnostic Tests	Serology. Culture. Nucleic acid amplification.
Typical Adult Therapy	Doxycycline 100 mg PO BID X 3 to 5 days (if endocarditis, add Gentamicin 3 mg/kg daily X 28 days) Alternatives: Clarithromycin , Azithromycin , Gentamicin , Fluoroquinolone (Levofloxacin , Trovaflloxacin , Pefloxacin , Sparfloxacin or Moxifloxacin)
Typical Pediatric Therapy	Erythromycin 10 mg/kg PO QID X 3 to 5 days. OR Gentamicin 2 mg/kg IM q12h. Alternatives: Clarithromycin , Azithromycin
Clinical Hints	- Often associated with poor hygiene and crowding - Headache, myalgias, shin pain, macular rash and splenomegaly - Endocarditis and bacteremia in some cases - Relapse is common
Synonyms	Bartonella alsatica, Bartonella bovis, Bartonella capreoli, Bartonella doshiae, Bartonella elizabethae, Bartonella melophagi, Bartonella quintana, Bartonella rochalimae, Bartonella schoenbuchensis, Bartonella tamiae, Bartonella taylorii, Bartonella tribocorum, Bartonella vinsonii, Bartonella vinsonii berkhoffii, Bartonella volans, Bartonella washoensis, <i>Candidatus Bartonella mayotimonensis</i> , <i>Candidatus Bartonella merieuxii</i> , <i>Candidatus Bartonella rochalimae</i> , Five day fever, His-Werner disease, Meuse fever, Quintan fever, Quintana fever, Shank fever, Shin fever, Shinbone fever, Trench fever, Volhynian fever. ICD9: 083.1 ICD10: A44.0,A44.8,A79.0

Blastocystis hominis infection

Agent	PARASITE - Protozoa. Chromista, Bigyra, Blastocystea: <i>Blastocystis hominis</i> . (taxonomic status remains uncertain)
Reservoir	Human
Vector	None
Vehicle	Fecal-oral, Water
Incubation Period	Unknown
Diagnostic Tests	Stool microscopy. Nucleic acid amplification.
Typical Adult Therapy	Nitazoxanide 500 mg BID X 3 d. OR Metronidazole 750 mg TID X 10d. OR Iodoquinol 650 mg TID X 20 d. OR Sulfamethoxazole / Trimethoprim
Typical Pediatric Therapy	Nitazoxanide - Age 1 to 3 years: 5 ml (100 mg) PO Q12h X 3 days - Age 4 to 11 years: 10 mg (200 mg) PO Q12h X 3 days; OR Metronidazole 15 mg/kg/d X 10d. Sulfamethoxazole / Trimethoprim
Clinical Hints	The precise role of this organism in disease is controversial - Diarrhea and flatulence, usually without fever - The illness is similar to giardiasis - Increased risk among immune-suppressed patients
Synonyms	Apoi, Blastocystiose, <i>Blastocystis hominis</i> , Zierdt-Garavelli disease. ICD9: 007.8 ICD10: A07.8

Blastocystis hominis infection in Gambia

Prevalence surveys

Years	Region	Study Group	%	Notes
2015*	Kiang West Province	food handlers	35.1	35.1% of food handlers in Kiang West Province 1

* indicates publication year (not necessarily year of survey)

References

1. [Trans R Soc Trop Med Hyg 2015 May ;109\(5\):334-9.](#)

Blastomycosis

Agent	FUNGUS. Ascomycota, Euascomycetes, Onygenales. <i>Blastomyces dermatitidis</i> . A dimorphic fungus
Reservoir	Soil, Beaver, Dog, Rodent
Vector	None
Vehicle	Air, Respiratory or pharyngeal acquisition
Incubation Period	14d - 44d (range 7d - 100d)
Diagnostic Tests	Microscopy and culture. Skin tests and serology not useful. Nucleic acid amplification.
Typical Adult Therapy	Itraconazole 200 to 400 mg PO daily X 6 months. OR Ketoconazole 400 mg/d X 6 months. OR Amphotericin B - total dose 2.0g. Excision as required
Typical Pediatric Therapy	Ketoconazole (if age >2) 5 mg/kg/d X 6 months. OR Amphotericin B - total cumulative dose 30 mg/kg
Clinical Hints	- Acute or chronic lung infection - Hematogenous involvement of skin common (verrucous or ulcerated skin/subcutaneous lesions) - Osteomyelitis of vertebrae or long bones, meningitis, prostatitis, etc
Synonyms	Blastomyces dermatitidis, Blastomyces gilchristii, Blastomykose, Chicago disease, Gilchrist's disease, North American blastomycosis. ICD9: 116.0 ICD10: B40

Blastomycosis in Gambia

A single case of blastomycosis had been reported in Gambia as of 1988. [1](#) [2](#)

Cross-border events

Years	Acquired by**	Originated in**	Setting	Cases	Notes
1973*	Lebanon	Gambia	travel	1	3

* indicates publication year (not necessarily year of event)

** Country or Nationality

References

1. *Mycopathologia* 1989 Jul ;107(1):25-32.
2. *S Afr Med J* 1989 Jul 01;76(1):13-6.
3. *Dermatologica* 1973 ;146(6):346-9.

Borna virus encephalitis

Agent	VIRUS - RNA Mononegavirales Bornavirus
Reservoir	Squirrel, Horse, Sheep
Vector	None
Vehicle	Unknown
Incubation Period	Unknown
Diagnostic Tests	Metagenomic analysis of brain tissue and cerebrospinal fluid Culture on specialized cell lines Serology
Typical Adult Therapy	Supportive
Typical Pediatric Therapy	As for adult
Clinical Hints	- May follow animal (horse, squirrel) contact - Most infections are subclinical - Manifested in some cases by mood disorders or possibly schizophrenia - Overt and fatal encephalitis has been reported, with fever, gait disturbance and ocular palsy
Synonyms	Borna disease, Heated head disease, Sad horse disease, Staggering disease of cats, Variegated squirrel 1 bornavirus, VSBV-1. ICD9: 323.9 ICD10: A83.9

Botulism

Agent	BACTERIUM. <i>Clostridium botulinum</i> . An anaerobic gram-positive bacillus
Reservoir	Soil, Animal, Fish
Vector	None
Vehicle	Food, Soil (contamination of wound or injected drug)
Incubation Period	1d - 2d
Diagnostic Tests	Electrophysiologic (EMG) pattern. Isolation of organism from food (occ. from infant stomach). Mouse toxin assay
Typical Adult Therapy	Heptavalent (types A-G) or trivalent (types A, B, E) antitoxin (following test dose) 10 ml in 100 ml saline over 30 min Additional 10 ml at 2 and 4 hours if necessary. Respiratory support
Typical Pediatric Therapy	As for adult
Vaccine	Botulism antitoxin
Clinical Hints	- Clinical manifestations similar to those of atropine poisoning - Dysarthria, diplopia, dilated pupils, dry mouth, constipation, flaccid paralysis - Onset approximately 36 hrs after ingestion of poorly-preserved food - May follow contaminated injection (ie, illicit drug) or other wound - Infant botulism associated with infant formula containing honey contaminated by bacterial spores
Synonyms	Botulisme, Botulismo, Botulismus, Kerner's disease. ICD9: 005.1 ICD10: A05.1

Brain abscess

Agent	BACTERIUM OR FUNGUS. Mixed oral anaerobes / streptococci, <i>Staphylococcus aureus</i> (from endocarditis), etc.
Reservoir	Human
Vector	None
Vehicle	None
Incubation Period	Variable
Diagnostic Tests	Imaging techniques (CT, scan, etc).
Typical Adult Therapy	Antibiotic(s) appropriate to likely pathogens + drainage Typical empiric therapy: Intravenous Ceftriaxone 2 gm + Metronidazole 15 mg/kg, Q12h
Typical Pediatric Therapy	Typical empiric therapy: Intravenous Ceftriaxone 50 mg/kg + Metronidazole 15 mg/kg IV, Q12h
Clinical Hints	- Headache, vomiting and focal neurological signs - Often associated with chronic sinusitis or otitis media, pleural or heart valve infection - Patients are often afebrile
Synonyms	Ascesso cerebrale, Cerebral abscess. ICD9: 324.0 ICD10: G06.0

Brucellosis

Agent	BACTERIUM. <i>Brucella abortus</i> , <i>Brucella melitensis</i> , <i>Brucella suis</i> , <i>Brucella canis</i> An aerobic gram-negative bacillus
Reservoir	Pig, Cattle, Sheep, Goat, Dog, Coyote, Caribou
Vector	None
Vehicle	Food, Air, Dairy products, Animal excretions, Breastfeeding
Incubation Period	10d - 14d (range 5d - 60d)
Diagnostic Tests	Culture of blood or bone marrow. Serology. Note: Alert laboratory to possibility of Brucella.
Typical Adult Therapy	Doxycycline 100 mg BID + Rifampin 600 mg BID X 6 weeks. Alternatives Tetracycline + Gentamicin
Typical Pediatric Therapy	Rifampin 20 mg/kg/day (maximum 600 mg) plus: >age 8 years: Doxycycline 2 mg/kg BID PO X 6w age < 8 years Sulfamethoxazole / Trimethoprim 4/20 mg/kg BID X 4 to 6w Add Gentamicin if severe
Clinical Hints	- Prolonged fever, hepatosplenomegaly, lymphadenopathy - Arthritis, osteomyelitis or chronic multisystem infection - Follows ingestion of unpasteurized dairy products, contact with farm animals or meat processing
Synonyms	Bang's disease, Bangsche Krankheit, Brucella, Brucellemia, Brucelliasis, Brucellose, Brucellosen, Brucellosi, Brucelose, Brucellosis, Cyprus fever, Febris melitensis, Febris sudoralis, Febris undulans, Fievre caprine, Gibraltar fever, Goat fever, Malta fever, Maltafieber, Melitococciosis, Neapolitan fever, Rock fever, Typhomalarial fever, Undulant fever. ICD9: 023 ICD10: A23

Brucellosis in Gambia

Human disease in this country is due to *Brucella abortus*.

No cases were reported in 1997.

Seroprevalence surveys

Years	Region	Study Group	%	Notes
2016*	Kiang West	various	0.17-2.2	0.17% of humans and 2.2% of sheep ¹

* indicates publication year (not necessarily year of survey)

References

1. PLoS One 2016 ;11(11):e0166035.

Bunyaviridae infections - misc.

Agent	VIRUS - RNA. Bunyaviridae, Orthobunyavirus. Over 30 strains have been associated with human disease (see Synonyms)
Reservoir	Rat, Bird, Marsupial, Chipmunk, Cattle, Sheep, Horse, Bat
Vector	Mosquito (exceptions: Shuni is transmitted by culicoid flies; Bhanja, Tamdy, Wanowrie and Zirqa by ticks)
Vehicle	None
Incubation Period	3d - 12d
Diagnostic Tests	Serology and virus isolation. Nucleic acid amplification. Biosafety level 2 or 3.
Typical Adult Therapy	Supportive
Typical Pediatric Therapy	As for adult
Clinical Hints	- Abrupt onset of fever, chills, headache; photophobia, rash arthralgia or myalgia - Vomiting, diarrhea or cough may be present - Meningitis or myocarditis may occur with Bwamba virus - Illness resolves within two-to-seven days
Synonyms	Avalon, Bangui, Batai, Bhanja, Bunyamwera, Bwamba, Cache Valley, Calovo, Catu, Fort Sherman, Garissa, Germiston, Guama, Hartland virus, Ilesha, Ingwavuma, Issyk-Kul, Kairi, Lumbo, Maguari, Ngari, Northway, Nyando, Pongola, Shokwe, Shuni, Tacaiuma, Tamdy, Tataguine, Tensaw, Wanowrie, Wyeomyia, Zirqa. ICD9: 066.3 ICD10: A93.8

Campylobacteriosis

Agent	BACTERIUM. <i>Campylobacter jejuni</i> subsp <i>jejuni</i> , et al A microaerophilic gram-negative bacillus
Reservoir	Human, Mammal, Bird
Vector	None
Vehicle	Water, Food
Incubation Period	2d - 4d (range 1d - 10d)
Diagnostic Tests	Stool (rarely blood, CSF) culture. Nucleic acid amplification. Alert laboratory when these organisms are suspected.
Typical Adult Therapy	Stool precautions. Azithromycin 500 mg QD X 3 days Alternatives Erythromycin , Fluoroquinolone (Ciprofloxacin , Levofloxacin , Trovafloxacin , Pefloxacin , Sparfloxacin or Moxifloxacin), Gentamicin
Typical Pediatric Therapy	Stool precautions. Azithromycin 10 mg/kg QD X 3 days Alternatives - Erythromycin , Gentamicin
Clinical Hints	- Febrile diarrhea or dysentery - Vomiting or bloody stool often noted - Severe abdominal pain may mimic appendicitis - Disease is most common among children and lasts for one-to-four days
Synonyms	Campylobacter. ICD9: 008.43 ICD10: A04.5

Campylobacteriosis in Gambia

Prevalence surveys

Years	Region	Study Group	%	Notes
1983*	Banjul	children	6.8-10.2	10.2% of fecal specimens from malnourished children and 6.8% from well nourished children
1981*		patients	14.3	14.3% of patients with diarrhea, and 4.2% of a control group (1981 publication) 2

* indicates publication year (not necessarily year of survey)

References

1. [Trans R Soc Trop Med Hyg 1983 ;77\(2\):245-7.](#)
2. [Trans R Soc Trop Med Hyg 1981 ;75\(5\):641-4.](#)

Candidiasis

Agent	FUNGUS - Yeast. Ascomycota, Hemiascomycetes, Saccharomycetales. <i>Candida albicans</i> , and other species.
Reservoir	Human
Vector	None
Vehicle	Contact, Catheter
Incubation Period	Variable
Diagnostic Tests	Culture. Serology and assays for cell-specific antigens are performed in some centers,
Typical Adult Therapy	Topical, oral, systemic antifungal agent depending on clinical presentation and species (in Drugs module, scroll through upper left box)
Typical Pediatric Therapy	As for adult
Clinical Hints	- Dermal erythema with satellite pustules - "Cheesy" mucosal discharge - Candidemia in the setting of intravenous catheter or endocarditis - Severe, widespread or intractable disease may suggest underlying diabetes, AIDS or other form of immune suppression
Synonyms	Candida, Candida-Mykosen, Candidiase, Candidiasi, Candidose, Monilia, Moniliasis, Salmonella, Thrush. ICD9: 112 ICD10: B37

Chancroid

Agent	BACTERIUM. <i>Haemophilus ducreyi</i> . A facultative gram-negative bacillus
Reservoir	Human
Vector	None
Vehicle	Sexual contact
Incubation Period	3d - 10d (2d - 21d)
Diagnostic Tests	Culture (inform laboratory when this diagnosis is suspected). Fluorescent staining under development
Typical Adult Therapy	Azithromycin 1.0 g PO X 1 dose. OR Ceftriaxone 250 mg IM X 1 dose. OR Ciprofloxacin 500 mg PO BID X 3 days OR Erythromycin 500 mg PO TID X 7d.
Typical Pediatric Therapy	Azithromycin 12 mg/kg PO X 1 dose OR Erythromycin 10 mg/kg PO TID X 7d. OR Ceftriaxone 10 mg/kg IM X 1
Clinical Hints	- Soft, painful and tender chancre on erythematous base - Regional lymphadenopathy - generally unilateral and painful - Onset three-to-ten days following sexual exposure
Synonyms	Blot sjanker, Chancre mou, Chancro blando, <i>Haemophilus ducreyi</i> , Nkumunye, Soft chancre, Ulcera mole, Ulcus molle, Weeke sjanker, Weicher Schanker. ICD9: 099.0 ICD10: A57

Chancroid in Gambia

Prevalence surveys

Years	Region	Study Group	%	Notes
1987*	Banjul	patients - STD	52	52% of genital ulcer disease treated in STD clinics 1 2
1995		patients - STD	44.4	44.4% of patients with genital ulcer disease 3

* indicates publication year (not necessarily year of survey)

References

1. Genitourin Med 1987 Oct ;63(5):312-5.
2. Bull World Health Organ 1990 ;68(5):639-54.
3. Emerg Infect Dis 2016 Jan ;22(1):1-8.

Chlamydia infections, misc.

Agent	BACTERIUM. Chlamydiaceae, Chlamydiae , <i>Chlamydia trachomatis</i> ; <i>Simkania negevensis</i> ; <i>Waddlia chondrophila</i>
Reservoir	Human
Vector	None
Vehicle	Sexual contact
Incubation Period	5d - 10d
Diagnostic Tests	Microscopy and immunomicroscopy of secretions. Serology. Tissue culture. Nucleic acid amplification.
Typical Adult Therapy	Azithromycin 1g as single dose OR Doxycycline 100 mg BID X 7d. OR Levofloxacin 500 mg daily X 7 days OR Ofloxacin 300 mg BID X 7 days
Typical Pediatric Therapy	Weight <45 kg: Erythromycin 12.5 mg/kg QID X 14d Weight >=45 kg, but age <8 years: Azithromycin 1 g as single dose Age >= 8 years: Azithromycin 1 g as single dose OR Doxycycline 100 mg BID X 7 d
Clinical Hints	- Thin, scant penile discharge - Cervicitis, with overt pelvic inflammatory disease in some cases - Conjunctivitis or neonatal pneumonia - Concurrent gonorrhea may be present
Synonyms	Bedsonia, Chlamydia felis, Chlamydia gallinacea, Chlamydia suis, Chlamydia trachomatis, Chlamydien-Urethritis, Chlamydien-Zervizitis, Chlamydophila, Inclusion blenorhoea, Non-gonococcal urethritis, Nonspecific urethritis, Parachlamydia, Parachlamydia acanthamoebiae, Prachlamydia, Protochlamydia, Protochlamydia naegleriophila, Rhabdochlamydia, Simkania negevensis, Waddlia chondrophila. ICD9: 099.41,099.5 ICD10: A56,A55

Chlamydia infections, misc. in Gambia

Prevalence surveys

Years	Study Group	%	Notes
1982*	pregnant women	6.9	1
1982*	various	13.5-15.4	15.4% of male urethritis patients and 13.6% of gynecology patients 2
1982*	women	13.6	13.6% of gynecology patients 3

* indicates publication year (not necessarily year of survey)

References

1. [Bull World Health Organ](#) 1990 ;68(5):639-54.
2. [Bull World Health Organ](#) 1990 ;68(5):639-54.
3. [Bull World Health Organ](#) 1990 ;68(5):639-54.

Chlamydophila pneumoniae infection

Agent	BACTERIUM. Chlamydiaceae, Chlamydiae , <i>Chlamydophila (Chlamydia) pneumoniae</i>
Reservoir	Human
Vector	None
Vehicle	Droplet, Respiratory or pharyngeal acquisition
Incubation Period	7d - 28d
Diagnostic Tests	Direct fluorescence of sputum. Serology and culture in specialized laboratories. Nucleic acid amplification.
Typical Adult Therapy	Respiratory isolation. Azithromycin 500 mg day 1, then 0.25 g daily X 4 days OR Levofloxacin 750 mg po BID X 7d. OR Alternatives: Doxycycline 100 mg BID X 7d. Erythromycin 500 mg QID X 10d. Clarithromycin 0.5 g BID X 7d
Typical Pediatric Therapy	Respiratory isolation Azithromycin 10 mg/kg PO day 1; 5 mg/kg PO days 2 to 5
Clinical Hints	- Atypical pneumonia, often associated with pharyngitis and myalgia - Consider this diagnosis when <i>Mycoplasma</i> , <i>Legionella</i> and influenza are discounted
Synonyms	Chlamydia pneumoniae, Chlamydia TWAR, Chlamydophila pneumoniae, TWAR. ICD9: 078.88 ICD10: J16.0

Chlamydophila pneumoniae infection in Gambia

Prevalence surveys

Years	Study Group	%	Notes
1991*	children	12	12% of children ages 1 to 9 years hospitalized for severe pneumonia ¹

* indicates publication year (not necessarily year of survey)

References

1. [Pediatr Infect Dis J](#) 1991 Jan ;10(1):42-7.

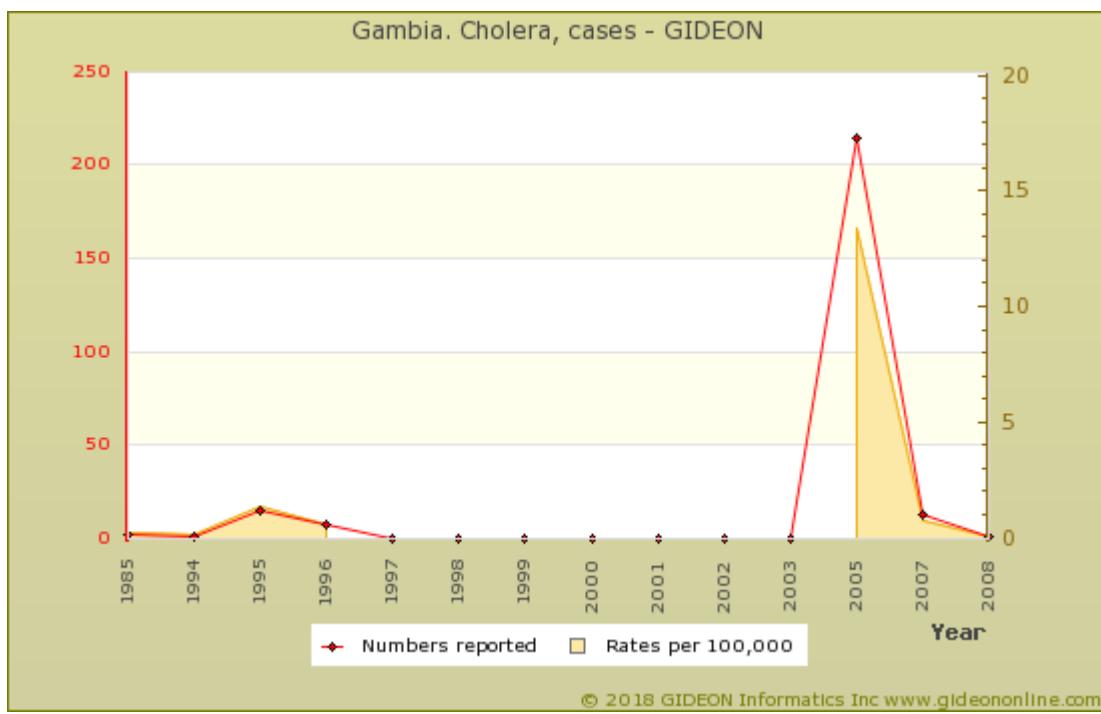
Cholecystitis and cholangitis

Agent	BACTERIUM. <i>Escherichia coli</i> , <i>Klebsiella pneumoniae</i> , enterococci, et al.
Reservoir	Human
Vector	None
Vehicle	Endogenous
Incubation Period	Variable
Diagnostic Tests	Roentgenograms/imaging (cholecystogram, ultrasound, CT, etc).
Typical Adult Therapy	Antibiotics and surgical intervention as required
Typical Pediatric Therapy	As for adult
Clinical Hints	- Fever, chills and right upper quadrant abdominal pain; - Often "female, fat and forty" - May be associated with gallstones or pancreatitis, or present as "fever of unknown origin"
Synonyms	Acute cholecystitis, Angiocholite, Ascending cholangitis, Cholangitis, Cholecystite, Cholecystitis, Cholezystitis, Colangite, Colangitis, Colecistite, Gall bladder. ICD9: 575.0,576.1 ICD10: K81,K83.0

Cholera

Agent	BACTERIUM. <i>Vibrio cholerae</i> A facultative gram-negative bacillus
Reservoir	Human
Vector	None
Vehicle	Water, Fecal-oral, Seafood (oyster, ceviche), Vegetables, Fly
Incubation Period	1d - 5d (range 9h - 6d)
Diagnostic Tests	Stool culture. Advise laboratory when this organism is suspected.
Typical Adult Therapy	Stool precautions. Doxycycline 100 mg BID X 5d, or Fluoroquinolone (Levofloxacin , Trovafloxacin , Pefloxacin , Sparfloxacin or Moxifloxacin), or Azithromycin Fluids (g/l): NaCl 3.5, NaHCO ₃ 2.5, KCl 1.5, glucose 20
Typical Pediatric Therapy	Stool precautions. Age >=8 years: Doxycycline 2 mg/kg BID X 5d. Age <8 years: Sulfamethoxazole / Trimethoprim Fluids (g/l): NaCl 3.5, NaHCO ₃ 2.5, KCl 1.5, glucose 20
Vaccines	Cholera - injectable vaccine Cholera - oral vaccine
Clinical Hints	- Massive, painless diarrhea and dehydration - Occasionally vomiting - Apathy or altered consciousness are common - Rapid progression to acidosis, electrolyte imbalance and shock - Fever is uncommon
Synonyms	Colera, Kolera. ICD9: 001 ICD10: A00

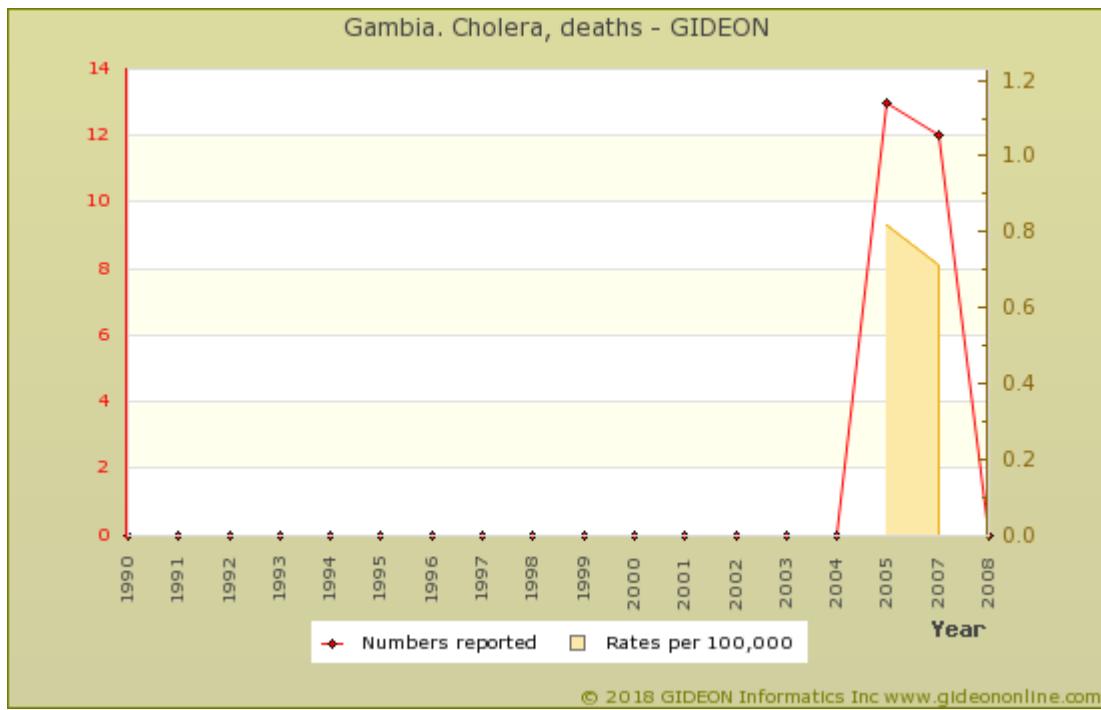
Cholera in Gambia



Graph: Gambia. Cholera, cases

Notes:

1. All cases reported since 1990 were imported.



Graph: Gambia. Cholera, deaths

Chromomycosis

Agent	FUNGUS. Ascomycota, Euascomycetes, Chaetothyriales. Dematiaceous molds: <i>Phialophora</i> , <i>Cladiophialophora</i> , <i>Fonsecaea</i> , <i>Rhinocladiella</i>
Reservoir	Wood, Soil, Vegetation
Vector	None
Vehicle	Minor trauma
Incubation Period	14d - 90d
Diagnostic Tests	Biopsy and fungal culture.
Typical Adult Therapy	Itraconazole 100 mg PO QID X (up to) 18 m. OR (for late disease) Flucytosine 25 mg/kg QID X 4m. OR Posaconazole 400 mg PO BID Terbinafine has been used in some cases. Local heat; excision as necessary
Typical Pediatric Therapy	Itraconazole 1 mg/kg PO BID X (up to) 18 m. OR Ketoconazole (if age >2) 5 mg/kg/d X 3 to 6m. Local heat; excision as necessary
Clinical Hints	- Violaceous, verrucous, slowly-growing papule(s) or nodules - Most commonly on lower extremities - Usually follows direct contact with plant matter in tropical regions
Synonyms	Chromoblastomycosis, Chromomykose, Phoma insulana, Veronaea, Verrucous dermatitis. ICD9: 117.2 ICD10: B43.0

Chronic meningococcemia

Agent	BACTERIUM. <i>Neisseria meningitidis</i> An aerobic gram-negative coccus
Reservoir	Human
Vector	None
Vehicle	Air, Infected secretions
Incubation Period	Unknown
Diagnostic Tests	Blood culture. Test patient for complement component deficiency.
Typical Adult Therapy	Intravenous Penicillin G 20 million units daily X 7 days
Typical Pediatric Therapy	Intravenous Penicillin G 200,000 units daily X 7 days
Clinical Hints	- Recurrent episodes of low-grade fever, rash, arthralgia and arthritis - May persist for months - Rash is distal and prominent near joints and may be maculopapular, petechial or pustular - In some cases, associated with complement component-deficiency
Synonyms	Meningococcemia, chronic. ICD9: 036.2 ICD10: A39.3

Clostridial food poisoning

Agent	BACTERIUM. <i>Clostridium perfringens</i> An anaerobic gram-positive bacillus
Reservoir	Soil, Human, Pig, Cattle, Fish, Poultry
Vector	None
Vehicle	Food
Incubation Period	8h - 14h (range 5h - 24h)
Diagnostic Tests	Laboratory diagnosis is usually not practical. Attempt culture of food for <i>C. perfringens</i> .
Typical Adult Therapy	Supportive
Typical Pediatric Therapy	As for adult
Clinical Hints	- Abdominal pain and watery diarrhea - Usually no fever or vomiting - Onset 8 to 14 hours after ingestion of meat, fish or gravy - Fecal leukocytes not seen - Most cases resolve within 24 hours
Synonyms	

Clostridial myonecrosis

Agent	BACTERIUM. <i>Clostridium perfringens</i> An anaerobic gram-positive bacillus
Reservoir	Soil, Human
Vector	None
Vehicle	Soil, Trauma
Incubation Period	6h - 3d
Diagnostic Tests	Gram stain of exudate. Wound and blood cultures. Presence of gas in tissue (not specific).
Typical Adult Therapy	Prompt, aggressive debridement. Penicillin G 3 million units IV Q3h + Clindamycin 900 mg IV Q8h. Hyperbaric oxygen
Typical Pediatric Therapy	Prompt, aggressive debridement. Penicillin G 50,000 units/kg IV Q3h + Clindamycin 10 mg/kg IV Q6h. Hyperbaric oxygen
Vaccine	Gas gangrene antitoxin
Clinical Hints	- Rapidly progressive tender and foul-smelling infection of muscle - Local gas present - crepitus or visible on X-ray - Hypotension, intravascular hemolysis and obtundation
Synonyms	Anaerobic myonecrosis, Clostridial gangrene, Gas gangrene. ICD9: 040.0 ICD10: A48.0

Clostridium difficile colitis

Agent	BACTERIUM. <i>Clostridium difficile</i> An anaerobic gram-positive bacillus
Reservoir	Human
Vector	None
Vehicle	Endogenous
Incubation Period	Variable
Diagnostic Tests	Assay of stool for C. difficile toxin.
Typical Adult Therapy	Metronidazole 500 mg PO TID X 10d. OR Vancomycin 125 mg (oral preparation) QID X 10d OR Fidaxomicin 200 mg PO BID X 10d Fecal transplantation (PO or by enema) has been effective in some cases.
Typical Pediatric Therapy	Vancomycin 2 mg/kg (oral preparation) QID X 10d
Clinical Hints	- Fever, leukocytosis and abdominal pain - Mucoid or bloody diarrhea during or following antibiotic therapy - Fecal leucocytes are seen - Suspect this diagnosis even when mild diarrhea follows antibiotic intake
Synonyms	Klebsiella oxytoca colitis, Pseudomembranous colitis. ICD9: 008.45 ICD10: A04.7

Common cold

Agent	VIRUS - RNA. Picornaviridae. Rhinoviruses, Coronavirus, et al.
Reservoir	Human
Vector	None
Vehicle	Droplet, Contact, Respiratory or pharyngeal acquisition
Incubation Period	1d - 3d
Diagnostic Tests	Viral culture and serology are available, but not practical.
Typical Adult Therapy	Supportive; Pleconaril under investigation
Typical Pediatric Therapy	As for adult
Clinical Hints	- Nasal obstruction or discharge, cough and sore throat are common - Fever above 38 C is common in children, but unusual in adults - Illness typically persists for one week, occasionally two
Synonyms	Acute coryza, Raffreddore. ICD9: 079,460 ICD10: J00

Conjunctivitis - inclusion

Agent	BACTERIUM. <i>Chlamydiae</i> , <i>Chlamydia trachomatis</i>
Reservoir	Human
Vector	None
Vehicle	Infected secretions, Sexual contact, Water (swimming pools)
Incubation Period	5d - 12d
Diagnostic Tests	Demonstration of chlamydiae on direct fluorescence or culture of exudate.
Typical Adult Therapy	Secretion precautions. Topical Erythromycin . Erythromycin 250 mg PO QID. X 14 days OR Doxycycline 100 mg PO BID X 14 days
Typical Pediatric Therapy	Secretion precautions. Topical Erythromycin . Azithromycin 1 g PO as single dose. Alternative If age >8 years, Doxycycline 100 mg PO BID X 7 days.
Clinical Hints	- Ocular foreign body sensation, photophobia and discharge - Illness can persist for months, to as long as 2 years
Synonyms	Inclusion conjunctivitis, Paratrachoma. ICD9: 077.0 ICD10: P39.1,A74.0

Conjunctivitis - viral

Agent	VIRUS. Picornavirus, Adenovirus
Reservoir	Human
Vector	None
Vehicle	Contact
Incubation Period	1d - 3d
Diagnostic Tests	Viral isolation is available but rarely practical.
Typical Adult Therapy	Supportive
Typical Pediatric Therapy	As for adult
Clinical Hints	- Watery discharge, generalized conjunctival injection and mild pruritus - May be associated with an upper respiratory infection
Synonyms	Apollo conjunctivitis, Apollo eye, Congiuntivite virale, Hemorrhagic conjunctivitis, Viral conjunctivitis. ICD9: 077.1,077.2,077.3,077.4,077.8,372.0 ICD10: B30,B30.3,H10

Conjunctivitis - viral in Gambia

Notable outbreaks

Years	Clinical	Pathogen	Notes
2011	acute hemorrhagic conjunctivitis	Coxsackie A24	1

References

1. BMC Res Notes 2017 Dec 06;10(1):692.

Cryptococcosis

Agent	FUNGUS - Yeast. Basidiomycota, Hymenomycetes, Sporidiales: <i>Cryptococcus neoformans</i> and other species
Reservoir	Pigeon, Soil
Vector	None
Vehicle	Air, Respiratory or pharyngeal acquisition
Incubation Period	Variable
Diagnostic Tests	Fungal culture and stains. Latex test for fungal antigen in CSF and serum. Nucleic acid amplification.
Typical Adult Therapy	Amphotericin B 0.3 mg/kg/d X 6w (+/- Flucytosine); then 0.8 mg/kg qod X 8w. OR Fluconazole 200 mg/d
Typical Pediatric Therapy	Amphotericin B 0.3 mg/kg/d X 6w (+/- Flucytosine); then 0.8 mg/kg qod X 8w. OR Fluconazole 3 mg/kg/d
Clinical Hints	- Chronic lymphocytic meningitis or pneumonia in an immune-suppressed patient - Meningitis may be subclinical, or "wax and wane" - Nuchal rigidity is absent or minimal; - Bone, skin, adrenals, liver, prostate and other sites may be infected hematogenously
Synonyms	Busse-Buschke disease, <i>Cryptococcus</i> , European blastomycosis, Torulosis. ICD9: 117.5,321.0 ICD10: B45

Cryptosporidiosis

Agent	PARASITE - Protozoa. Apicomplexa, Eimeriida: <i>Cryptosporidium hominis</i> and <i>C. parvum</i> (rarely <i>C. muris</i> , <i>C. felis</i> , <i>C. meleagridis</i> , et al).
Reservoir	Mammal (over 150 species)
Vector	None
Vehicle	Water, Feces, Oysters, Fly
Incubation Period	5d - 10d (range 2d - 14d)
Diagnostic Tests	Stool/duodenal aspirate for acid-fast, direct fluorescence staining, or antigen assay. Nucleic acid amplification
Typical Adult Therapy	Stool precautions. Nitazoxanide: 500 mg PO BID X 3 days
Typical Pediatric Therapy	Stool precautions. Nitazoxanide: 1 to 3 years: 100 mg PO BID X 3 days 4 to 11 years: 200 mg PO BID X 3 days >12 years: 500 mg PO BID X 3 days
Clinical Hints	- Watery diarrhea, vomiting, abdominal pain - Self-limited disease in healthy subjects - Immunosuppressed (e.g., AIDS) patients experience chronic, wasting illness (may be associated with pulmonary disease)
Synonyms	<i>Cryptosporidium</i> , <i>Cryptosporidium andersoni</i> , <i>Cryptosporidium chipmunk genotype</i> , <i>Cryptosporidium cuniculus</i> , <i>Cryptosporidium fayeri</i> , <i>Cryptosporidium felis</i> , <i>Cryptosporidium hedgehog genotype</i> , <i>Cryptosporidium hominis</i> , <i>Cryptosporidium meleagridis</i> , <i>Cryptosporidium parvum</i> , <i>Cryptosporidium pestis</i> , <i>Cryptosporidium suis</i> , <i>Cryptosporidium tyzzeri</i> , <i>Cryptosporidium ubiquitum</i> , <i>Cryptosporidium viatorum</i> , <i>Kryptosporidiose</i> . ICD9: 007.4 ICD10: A07.2

Cutaneous larva migrans

Agent	PARASITE - Nematoda. Secernentea: <i>Ancylostoma braziliense</i> , <i>A. caninum</i> , <i>Bunostomum phlebotomum</i> , <i>Strongyloides myopotami</i>
Reservoir	Cat, Dog, Cattle
Vector	None
Vehicle	Soil, Contact
Incubation Period	2d - 3d (range 1d - 30d)
Diagnostic Tests	Biopsy is usually not helpful.
Typical Adult Therapy	Albendazole 200 mg BID X 3d OR Ivermectin 200 micrograms/kg as single dose. OR Thiabendazole topical, and oral 25 mg/kg BID X 5d (max 3g).
Typical Pediatric Therapy	Albendazole 2.5 mg/kg BID X 3d OR Ivermectin 200 micrograms/kg once OR Thiabendazole topical, and oral 25 mg/kg BID X 5d (max 3g).
Clinical Hints	- Erythematous, serpiginous, intensely pruritic and advancing lesion(s) or bullae - Usually involves the feet - Follows contact with moist sand or beach - May recur or persist for months.
Synonyms	Creeping eruption, Pelodera, Plumber's itch. ICD9: 126.2,126.8,126.9 ICD10: B76.9

Cyclosporiasis

Agent	PARASITE - Protozoa. Apicomplexa, Eimeriida: <i>Cyclospora cayetanensis</i>
Reservoir	Human, Non-human primate
Vector	None
Vehicle	Water, Vegetables
Incubation Period	1d - 11d
Diagnostic Tests	Identification of organism in stool smear. Cold acid fast stains and ultraviolet microscopy may be helpful.
Typical Adult Therapy	Sulfamethoxazole / Trimethoprim 800/160 mg BID X 7d Ciprofloxacin 500 mg PO BID X 7 d (followed by 200 mg TIW X 2 w) has been used in sulfa-allergic patients
Typical Pediatric Therapy	Sulfamethoxazole / Trimethoprim 10/2 mg/kg BID X 7d
Clinical Hints	<ul style="list-style-type: none">- Most cases follow ingestion of contaminated water in underdeveloped countries- Large outbreaks have been associated with ingestion of contaminated fruit- Watery diarrhea (average 6 stools daily)- Abdominal pain, nausea, anorexia and fatigue- May persist for up to 6 weeks (longer in AIDS patients)
Synonyms	Cryptosporidium muris, Cyanobacterium-like agent, Cyclospora. ICD9: 007.5 ICD10: A07.8

Cysticercosis

Agent	PARASITE - Platyhelminthes, Cestoda. Cyclophyllidea, Taeniidae: <i>Taenia solium</i>
Reservoir	Pig, Human
Vector	None
Vehicle	Soil (contaminated by pigs), Fecal-oral, Fly
Incubation Period	3m - 3y
Diagnostic Tests	Serology (blood or CSF) and identification of parasite in biopsy material.
Typical Adult Therapy	Albendazole 400 mg PO BID X 30d. OR Praziquantel 30 mg/kg TID X 14d (15 to 30d for neurocysticercosis). Combination of Albendazole + Praziquantel may be superior for neurocysticercosis. Surgery as indicated Add corticosteroids if brain involved.
Typical Pediatric Therapy	Albendazole 15 mg/kg PO BID X 30d. OR Praziquantel 30 mg/kg TID X 14d (15 to 30d for neurocysticercosis). Combination of Albendazole + Praziquantel may be superior for neurocysticercosis. Surgery as indicated Add corticosteroids if brain involved.
Clinical Hints	- Cerebral, ocular or subcutaneous mass - Usually no eosinophilia - Calcifications noted on X-ray examination - Associated with regions where pork is eaten - 25% to 50% of patients have concurrent tapeworm infestation
Synonyms	Taenia crassiceps, Taenia martis. ICD9: 123.1 ICD10: B69

Cysticercosis in Gambia

Seroprevalence surveys

Years	Study Group	%	Notes
2008 - 2009	patients - CNS	1.4	1.4% of patients with epilepsy vs. 1.9% of a control group ¹

References

1. *Trop Med Int Health* 2010 Apr ;15(4):476-9.

Cytomegalovirus infection

Agent	VIRUS - DNA. Herpesviridae, Betaherpesvirinae: Human herpesvirus 5 (Cytomegalovirus)
Reservoir	Human
Vector	None
Vehicle	Droplet (respiratory), Urine, Dairy products, Tears, Stool, Sexual, contact (rare), Transplacental, Breastfeeding
Incubation Period	3w - 5w (range 2w - 12w)
Diagnostic Tests	Viral culture (blood, CSF, urine, tissue). Serology. Direct viral microscopy. Nucleic acid amplification
Typical Adult Therapy	(Most cases self-limited). Ganciclovir 5 mg/kg q12h IV X 2 to 3w. OR Foscarnet 90 mg/kg Q12h IV OR Cidofovir 5 mg/kg IV weekly
Typical Pediatric Therapy	(Most cases self-limited) Ganciclovir 5 mg/kg q12h IV X 2 to 3w
Vaccine	Cytomegalovirus immunoglobulin
Clinical Hints	- Heterophile-negative "mononucleosis" - Mild pharyngitis, without exudate - Variable degree of lymphadenopathy and splenomegaly - Retinitis in AIDS patients - Pneumonia in setting of immune suppression - Congenital infection characterized by multisystem disease in newborns
Synonyms	Cytomegalovirus, Zytomegalie. ICD9: 078.5 ICD10: B25

Dermatophytosis

Agent	FUNGUS. Ascomycota, Euascomyces, Onygenales: <i>Epidermophyton</i> , <i>Microsporum</i> , <i>Trichophyton</i> , <i>Trichosporon</i> spp., <i>Arthroderma</i> , et al
Reservoir	Human, Dog, Cat, Rabbit, Marsupial, Other mammal
Vector	None
Vehicle	Contaminated soil/flooring, Animal Contact
Incubation Period	2w - 38w
Diagnostic Tests	Fungal culture and microscopy of skin, hair or nails. Nucleic acid amplification.
Typical Adult Therapy	Skin - topical Clotrimazole, Miconazole , etc. Hair/nails - Terbinafine , Griseofulvin , Itraconazole or Fluconazole PO
Typical Pediatric Therapy	As for adult
Clinical Hints	- Erythematous, circinate, scaling or dyschromic lesions of skin, hair or nails - Pruritus, secondary infection or regional lymphadenopathy may be present
Synonyms	Arthroderma, Dermatomicose, Dermatomycose, Dermatomycosis, Dermatomykose, Dermatomykosen, Emericella, Favus, Granuloma trichophyticum, Gruby's disease, Kodamaea, Leukonychia trichophytica, Microsporum, Nattrassia, Onychocola, Onychomycosis, Pityriasis versicolor, Ringworm, Saint Aignan's disease, Scopulariopsis, Scytalidium, Tinea, Tinea barbae, Tinea capitis, Tinea corporis, Tinea cruris, Tinea favosa, Tinea imbricata, Tinea manum, Tinea pedis, Tinea unguinum, Tokelau ringworm, Triadelphia pulvinata, Trichomycosis, Trichophytosis, Trichophytosis gladiatorium. ICD9: 110,111 ICD10: B35,B36

Dientamoeba fragilis infection

Agent	PARASITE - Protozoa. Metamonada, Parabasala, Trichomonadea. Flagellate: <i>Dientamoeba fragilis</i>
Reservoir	Human, Gorilla, Pig
Vector	None
Vehicle	Fecal-oral (ingestion of pinworm ova)
Incubation Period	8d - 25d
Diagnostic Tests	Identification of trophozoites in stool. Nucleic acid amplification. Alert laboratory if this diagnosis is suspected.
Typical Adult Therapy	Stool precautions. Iodoquinol 650 mg PO TID X 20d. OR Tetracycline 500 mg QID X 10d. OR Paromomycin 10 mg/kg TID X 7d OR Metronidazole 750 mg PO TID X 10d
Typical Pediatric Therapy	Stool precautions. Iodoquinol 13 mg/kg PO TID X 20d. OR (age >8) Tetracycline 10 mg/kg QID X 10d OR Paromomycin 10 mg/kg TID X 7d OR Metronidazole 15 mg/kg PO TID X 10d
Clinical Hints	- Abdominal pain with watery or mucous diarrhea - Eosinophilia may be present - Concurrent enterobiasis (pinworm) is common - Infestation may persist for more than one year
Synonyms	

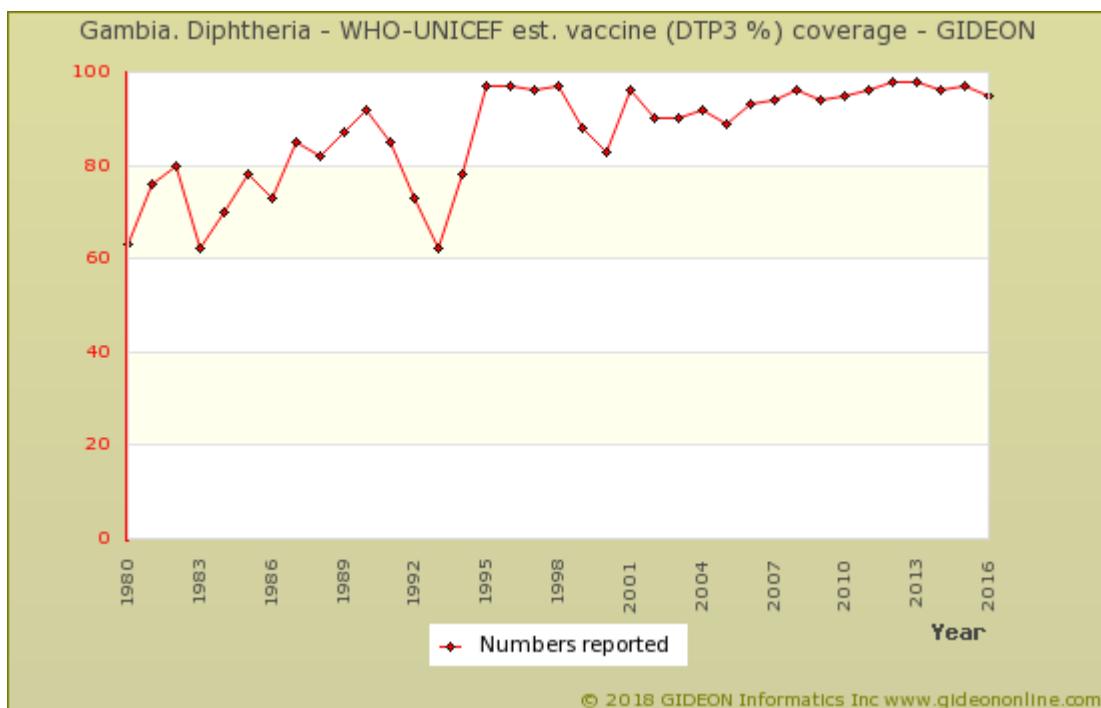
Diphtheria

Agent	BACTERIUM. <i>Corynebacterium diphtheriae</i> A facultative gram-positive bacillus
Reservoir	Human
Vector	None
Vehicle	Droplet, Contact, Dairy products, Clothing
Incubation Period	2d - 5d (range 1d - 10d)
Diagnostic Tests	Culture on special media. Advise laboratory when this diagnosis is suspected.
Typical Adult Therapy	Respiratory isolation. Equine antitoxin 20,000 to 80,000 units IM. (first perform scratch test) <i>Erythromycin</i> 500 mg QID (or Penicillin preparation) X 14d
Typical Pediatric Therapy	Respiratory isolation. Equine antitoxin 1,000 units/kg IM. (first perform scratch test) <i>Erythromycin</i> 10 mg/kg QID (or penicillin preparation) X 14d
Vaccines	Diphtheria antitoxin Diphtheria vaccine DTP vaccine DT vaccine DTaP vaccine Td vaccine
Clinical Hints	- Pharyngeal membrane with cervical edema and lymphadenopathy - "Punched out" skin ulcers with membrane - Myocarditis or neuropathy (foot/wrist drop) may appear weeks following initial infection
Synonyms	<i>Corynebacterium diphtheriae</i> , Difteri, Difteria, Difterie, Difterite, Diphterie. ICD9: 032 ICD10: A36

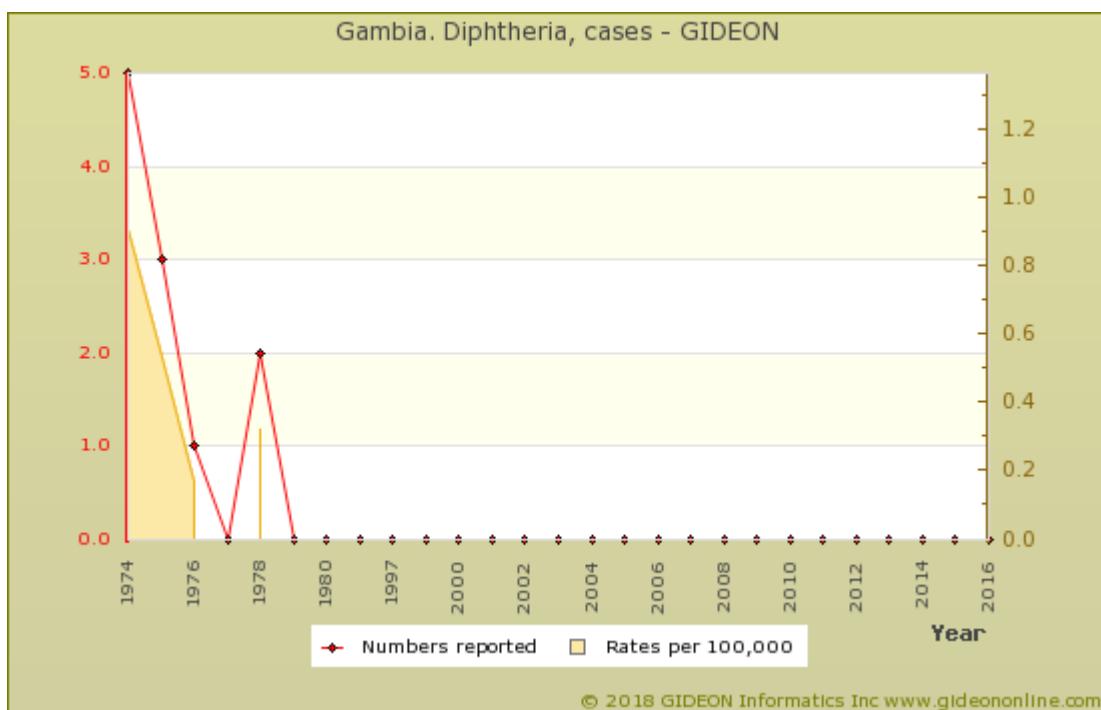
Diphtheria in Gambia

Vaccine Schedule:

BCG - birth
 DTwP - 18-24 months; booster
 DTwPHibHepB - 2,3,4 months
 HepB - birth
 HPV - 9-13 years; +6 months
 IPV - 4 months
 Measles - 9,18 months
 OPV - birth 2, 3, 4, 9,18 months
 Pneumo conj - 2,3,4 months
 Rotavirus - 2,3,4 months
 TT - 1st contact; +1, +6 months; +1, +2 year
 YF - 9 months



Graph: Gambia. Diphtheria - WHO-UNICEF est. vaccine (DTP3 %) coverage



Graph: Gambia. Diphtheria, cases

Notes:

1. A true incidence of 400 cases (300 fatal) was estimated for 1976.

Cross-border events

Years	Acquired by**	Originated in**	Cases	Notes
2000	United Kingdom	Gambia	1	Case of cutaneous diphtheria

** Country or Nationality

Diphyllobothriasis

Agent	PARASITE - Platyhelminthes, Cestoda. Pseudophyllidea, Diphyllobothriidae: <i>Diphyllobothrium latum</i> , et al
Reservoir	Human, Dog, Bear, Fish-eating mammal
Vector	None
Vehicle	Fresh-water fish - notably (for <i>D. latum</i>) perch, burbot and pike
Incubation Period	4w - 6w (range 2w - 2y)
Diagnostic Tests	Identification of ova or proglottids in feces.
Typical Adult Therapy	Praziquantel 10 mg/kg PO as single dose OR Niclosamide 2 g PO once
Typical Pediatric Therapy	Praziquantel 10 mg/kg PO as single dose OR Niclosamide 50 mg/kg PO once
Clinical Hints	- Abdominal pain, diarrhea and flatulence - Vitamin B12 deficiency is noted in 0.02% of patients - Rare instances of intestinal obstruction have been described - Worm may survive for decades in the human intestine
Synonyms	Adenocephalus pacificus, Bandworm [Diphyllobothrium], Bothriocephalus acheilognathi, Bothriocephalus latus, Broad fish tapeworm, Dibothriocephalus infection, Diphyllobothrium cordatum, Diphyllobothrium dalliae, Diphyllobothrium dendriticum, Diphyllobothrium klebanovskii, Diphyllobothrium latum, Diphyllobothrium nihonkaiense, Diphyllobothrium stummacephalum, Diphyllobothrium ursi, Diplogonoporiasis, Fish tapeworm. ICD9: 123.4 ICD10: B70.0

Dipylidiasis

Agent	PARASITE - Platyhelminthes, Cestoda. Cyclophyllidae, Dipylidiidae: <i>Dipylidium caninum</i>
Reservoir	Dog, Cat
Vector	None
Vehicle	Ingested flea (<i>Ctenocephalides</i> spp.)
Incubation Period	21d - 28d
Diagnostic Tests	Identification of proglottids in feces.
Typical Adult Therapy	Praziquantel 10 mg/kg PO as single dose OR Niclosamide 2 g PO once
Typical Pediatric Therapy	Praziquantel 10 mg/kg PO as single dose OR Niclosamide 50 mg/kg PO once
Clinical Hints	- Diarrhea, abdominal distention and restlessness (in children) - Eosinophilia present in some cases - Proglottids may migrate out of the anus
Synonyms	Cucumber tapeworm, <i>Dipylidium caninum</i> , Dog tapeworm, Double-pored dog tapeworm. ICD9: 123.8 ICD10: B71.1

Dirofilariasis

Agent	PARASITE - Nematoda. Secernentea: <i>Dirofilaria (Nochtiella) immitis</i> (pulmonary); <i>D. tenuis</i> & <i>D. repens</i> (subcutaneous infection) & <i>D. ursi</i>
Reservoir	Mammal, Dog, Wild carnivore (<i>D. tenuis</i> in raccoons; <i>D. ursi</i> in bears)
Vector	Mosquito
Vehicle	None
Incubation Period	60d - 90d
Diagnostic Tests	Identification of parasite in tissue. Serology. Nucleic acid amplification.
Typical Adult Therapy	Not available; excision is often diagnostic and curative
Typical Pediatric Therapy	As for adult
Clinical Hints	- Most patients are asymptomatic - Cough and chest pain in some cases - Solitary pulmonary coin lesion seen on imaging - Multiple tender subcutaneous nodules may be present - Eosinophilia is usually absent
Synonyms	Candidatus <i>Dirofilaria hongkongensis</i> , <i>Dirofilariosis</i> , <i>Dirofiliaria</i> , <i>Dog heartworm</i> , <i>Filaria conjunctivae</i> , <i>Loaina</i> . ICD9: 125.6 ICD10: B74.8

Dracunculiasis

Agent	PARASITE - Nematoda. Secernentea, Camallanida: <i>Dracunculus medinensis</i>
Reservoir	Human, Dog
Vector	None
Vehicle	Copepod (<i>Mesocyclops</i> and <i>Thermocyclops</i>) in drinking water
Incubation Period	12m - 18m
Diagnostic Tests	Identification of adult worm in situ; or identification of discharged larvae from wound.
Typical Adult Therapy	Worm removal Metronidazole 500 mg PO TID X 10d. OR Thiabendazole 30 mg/kg PO BID X 3d have been used to facilitate worm removal.
Typical Pediatric Therapy	Worm removal Metronidazole 8 mg/kg PO TID X 10d. OR Thiabendazole 30 mg/kg BID X 3d have been used to facilitate worm removal.
Clinical Hints	- Nausea and urticaria followed by appearance of papule or bulla (usually lower leg) which ruptures - Calcified worm may be visible on x-ray - Occasional eosinophilia - Adult worm may survive for 18 months in humans
Synonyms	Dracunculose, <i>Dracunculus medinensis</i> , Dracunculiasis, Filaria medinensis, Guinea worm, Medina worm. ICD9: 125.7 ICD10: B72

Although Dracunculiasis is not endemic to Gambia, imported, expatriate or other presentations of the disease have been associated with this country.

Dracunculiasis in Gambia

Gambia. Dracunculiasis, cases: None reported between 1983 and 2017

Gambia was officially certified as "free of transmission" as of 2003. ¹

References

1. [Wkly Epidemiol Rec 2004 Apr 16;79\(16\):154-5.](#)

Echinococcosis - unilocular

Agent	PARASITE - Platyhelminthes, Cestoda. Cyclophyllidea, Taeniidae: <i>Echinococcus granulosus</i> , <i>Echinococcus canadensis</i>
Reservoir	Dog, Wolf, Dingo, Sheep, Horse, Pig
Vector	None
Vehicle	Soil, Dog feces, Fly
Incubation Period	1y - 20y
Diagnostic Tests	Serology. Identification of parasite in surgical specimens.
Typical Adult Therapy	Albendazole 400 mg BID X 28d. Repeat X 3, with 2 week hiatus between cycles. Praziquantel has been used preoperatively to sterilize cyst. Follow by surgery as indicated. PAIR (puncture-aspiration-injection-reaspiration) is also used
Typical Pediatric Therapy	Albendazole 10 mg/kg/day X 28d. Repeat X 3, with 2 week hiatus between cycles. Praziquantel has been used preoperatively to sterilize cyst. Follow by surgery as indicated. PAIR (puncture-aspiration-injection-reaspiration) also used
Clinical Hints	- Calcified hepatic cyst or mass lesions in lungs and other organs - Brain and lung involvement are common in pediatric cases
Synonyms	Echinococcus canadensis, Echinococcus granulosus, Echinococcus ortleppi, Hydatid cyst, Unilocular echinococcosis. ICD9: 122.0,122.1,122.2,122.3,122.4 ICD10: B67.0,B67.1,B67.2,B67.3,B67.4

Endocarditis - infectious

Agent	BACTERIUM OR FUNGUS. viridans streptococci, <i>Staphylococcus aureus</i> , enterococci, <i>Candida albicans</i> , et al.
Reservoir	Human
Vector	None
Vehicle	Endogenous
Incubation Period	Variable
Diagnostic Tests	Blood culture, clinical findings, ultrasonography of heart valves.
Typical Adult Therapy	Bactericidal antibiotic appropriate to species
Typical Pediatric Therapy	As for adult
Clinical Hints	- Consider in any patient with prolonged and unexplained fever, - Multisystem disease and a preexisting cardiac valvular lesion may be present - Skin lesions, hematuria, neurological symptoms, single or multiple abscesses or bone, brain, lung (etc)
Synonyms	Bacterial endocarditis, Endocardite, Endocarditis, Endokarditis, Fungal endocarditis, Infectious endocarditis, S.B.E.. ICD9: 421 ICD10: I33

Enterobiasis

Agent	PARASITE - Nematoda. Secernentea: <i>Enterobius vermicularis</i>
Reservoir	Human
Vector	None
Vehicle	Fecal-oral, Air, Clothing, Sexual contact
Incubation Period	14d - 42d
Diagnostic Tests	Apply scotch tape to anal verge in a.m. & paste onto glass slide for microscopy.
Typical Adult Therapy	Albendazole 400 mg PO as single dose - repeat in 2w. OR Mebendazole 100 mg PO as single dose - repeat in 2w. OR Pyrantel pamoate 11 mg/kg (max 1g) PO as single dose; or
Typical Pediatric Therapy	Mebendazole 100 mg PO as single dose (>age 2) - repeat in 2w. OR Pyrantel pamoate 11 mg/kg (max 1g) PO X 1
Clinical Hints	- Nocturnal anal pruritus - Occasionally presents with vaginitis or abdominal pain - Eosinophilia is rarely, if ever, encountered
Synonyms	Enterobio, Enterobius vermicularis, Oxyuriasis, Oxyuris, Pinworm, Seatworm. ICD9: 127.4 ICD10: B80

Enterovirus infection

Agent	VIRUS - RNA. Picornaviridae: Coxsackievirus, ECHO virus, Enterovirus, Parechovirus
Reservoir	Human
Vector	None
Vehicle	Droplet, Fecal-oral, Breastfeeding, Respiratory or pharyngeal acquisition
Incubation Period	2d-7d
Diagnostic Tests	Viral culture (stool, pharynx, CSF). Serology. Nucleic acid amplification.
Typical Adult Therapy	Supportive. Pleconaril 200 to 400 mg PO TID X 7d has been used for severe infections
Typical Pediatric Therapy	Supportive. Pleconaril 5 mg/kg PO BID has been used for severe infections
Clinical Hints	- Summer-to-autumn sore throat - Specific forms present with conjunctivitis, chest pain, macular or vesicular rash, meningitis, myopericarditis, etc
Synonyms	Boston exanthem [Caxsackie A 16], Coxsackie, Coxsackievirus, ECHO, Echovirus, Enteroviruses, Hand, foot and mouth disease, Hand-foot-and-mouth disease, Herpangina [Coxsackievirus A], HEV 68, HPeVs, Human Enterovirus 68, Human Parechovirus, Ljungan virus, Myocarditis, enteroviral, Parechovirus, Pericarditis, enteroviral. ICD9: 049,079.2,008.67,074.0,074.8,074.3,070.4,078.89 ICD10: A88.0,A87.0,B08.4,B08.5,B08.8,B30.3,B34.1

Enterovirus infection in Gambia

Notable outbreaks

Years	Clinical	Pathogen	Notes
2011	acute hemorrhagic conjunctivitis	Coxsackie A24	1

References

1. [BMC Res Notes 2017 Dec 06;10\(1\):692.](#)

Epidural abscess

Agent	BACTERIUM. <i>Staphylococcus aureus</i> , facultative gram negative bacilli, etc
Reservoir	Human
Vector	None
Vehicle	Endogenous
Incubation Period	Variable
Diagnostic Tests	Imaging (CT scan, MRI). Gram-stain and culture of blood or pus.
Typical Adult Therapy	Intravenous antibiotic(s) appropriate to identified or suspected pathogens. Drainage as indicated
Typical Pediatric Therapy	Intravenous antibiotic(s) appropriate to identified or suspected pathogen. Drainage as indicated
Clinical Hints	- Frontal bone abscess; or spinal cord compression with signs of infection - Often in setting of injecting drug abuse or preexisting staphylococcal infection
Synonyms	

Erysipelas or cellulitis

Agent	BACTERIUM. Erysipelas: <i>Streptococcus pyogenes</i> Cellulitis: <i>Staphylococcus aureus</i> , <i>Streptococcus pyogenes</i> , occasionally others
Reservoir	Human
Vector	None
Vehicle	Endogenous
Incubation Period	1d - 7d
Diagnostic Tests	Clinical diagnosis is usually sufficient. Aspiration of lesion for smear and culture may be helpful in some cases.
Typical Adult Therapy	Antibiotic directed at likely pathogens (Group A Streptococcus and Staphylococcus aureus)
Typical Pediatric Therapy	As for adult
Clinical Hints	- Erysipelas is well-circumscribed, tender, edematous (peau d'orange), warm and painful - Cellulitis is less painful, flat and without a distinct border
Synonyms	Cellulite, Cellulitis, Celulite, Celulitis, Erisipela, Erysipelas, St. Anthony's fire (erysipelas), St. Francis' fire (erysipelas), Zellulitis. ICD9: 035,681,682 ICD10: A46,L03

Erysipeloid

Agent	BACTERIUM. <i>Erysipelothrix rhusiopathiae</i> A facultative gram-positive bacillus
Reservoir	Mammal, Bird, Fish
Vector	None
Vehicle	Contact with meat (mammal, poultry or fish)
Incubation Period	1d - 4d
Diagnostic Tests	Culture.
Typical Adult Therapy	Oral therapy for 10 days: Penicillin V , Ampicillin , third-generation cephalosporin, Fluoroquinolone (Levofloxacin , Trovafloxacin , Pefloxacin , Sparfloxacin or Moxifloxacin), Erythromycin , Clindamycin or Tetracycline are generally adequate
Typical Pediatric Therapy	Oral therapy for 10 days: Penicillin V , Ampicillin , third-generation cephalosporin or Erythromycin , Clindamycin are generally adequate
Clinical Hints	- Typically follows contact with raw animal or fish products - Annular erythema or "target lesion" on hand - Fever is present in only 10% of cases. - Local pain and swelling, without discharge
Synonyms	Erysipelothrix rhusiopathiae, Rutlauf. ICD9: 027.1 ICD10: A26

Erythrasma

Agent	BACTERIUM. <i>Corynebacterium minutissimum</i> A facultative gram-positive bacillus
Reservoir	Human
Vector	None
Vehicle	Endogenous
Incubation Period	Unknown
Diagnostic Tests	Coral fluorescence of skin lesion under Wood's lamp. Culture (alert lab regarding diagnosis).
Typical Adult Therapy	Erythromycin 250 mg PO QID X 14d. Topical Clindamycin 2% and topical Fusidic acid have also been used
Typical Pediatric Therapy	Erythromycin 10 mg/kg PO QID X 14d. Topical Clindamycin 2% and topical Fusidic acid have also been used
Clinical Hints	- Common in obese or diabetic males - Pruritic, scaling, slowly-progressive red-brown patch - Usually affects the groin - occasionally in toe webs - Coral fluorescence under Wood's light.
Synonyms	Corynebacterium minutissimum, Eritrasma. ICD9: 039.0 ICD10: L08.1

Escherichia coli diarrhea

Agent	BACTERIUM. <i>Escherichia coli</i> A facultative gram-negative bacillus
Reservoir	Human, Mammal
Vector	None
Vehicle	Food, Water, Fecal-oral
Incubation Period	1d - 3d (range 12h - 10d)
Diagnostic Tests	Stool culture. Request characterization of <i>E. coli</i> isolates.
Typical Adult Therapy	Supportive therapy. If EHEC, avoid anti-motility drugs and antimicrobial agents. Plasma exchange may be effective in HUS Note that antimicrobial agents may increase risk for hemolytic-uremic syndrome when used in cases of <i>E. coli</i> O157:H7 infection
Typical Pediatric Therapy	Supportive therapy. If EHEC, avoid anti-motility drugs and antimicrobial agents. Plasma exchange may be effective in HUS Note that antimicrobial agents may increase risk for hemolytic-uremic syndrome when used in cases of <i>E. coli</i> O157:H7 infection
Clinical Hints	- Watery diarrhea or dysentery - Common among travelers and infants - Hemorrhagic colitis and hemolytic uremic syndrome with type O157, and occasionally other strains
Synonyms	DAEC (Diffusely Adherent <i>E. coli</i>), <i>E. coli</i> diarrhea, EAEC (Enteroadherent <i>E. coli</i>), EAggEC (Enteragggregative <i>E. coli</i>), EHEC (Enterohemorrhagic <i>E. coli</i>), EIEC (Enteroinvasive <i>E. coli</i>), EPEC (Enteropathogenic <i>E. coli</i>), Escherichia albertii, ETEC (Enterotoxic <i>E. coli</i>), Hamolytisch-uramisches Syndrom, Hemolytic Uremic Syndrome, HUS. ICD9: 008.0 ICD10: A04.0,A04.1,A04.2,A04.3,A04.4

Escherichia coli diarrhea in Gambia

Prevalence surveys

Years	Region	Study Group	%	Notes
2011 - 2012	Upper River Region	insects	21	21% of <i>Chrysomya putoria</i> blowflies at village latrines (surface cultures) ¹

References

1. PLoS Negl Trop Dis 2012 ;6(11):e1895.

Filariasis - Bancroftian

Agent	PARASITE - Nematoda. Secernentea: <i>Wuchereria bancrofti</i>
Reservoir	Human
Vector	Mosquito (<i>Anopheles</i> , <i>Aedes</i> , <i>Culex</i>)
Vehicle	None
Incubation Period	5m - 18m (range 1m - 2y)
Diagnostic Tests	Identification of microfilariae in nocturnal blood specimen. Nucleic acid amplification. Serology may be helpful.
Typical Adult Therapy	Diethylcarbamazine : 50 mg day 1 50 mg TID day 2 100 mg TID day 3 Then 2 mg/kg TID X 18 days. OR Ivermectin 200ug/kg PO as single dose. Doxycycline 200 mg daily X 8 w is also effective.
Typical Pediatric Therapy	As for adult
Clinical Hints	- Lymphangitis, lymphadenitis and eosinophilia - Epididymitis, orchitis, hydrocoele or progressive edema are common - Chyluria occasionally encountered - Episodes of fever and lymphangitis may recur over several years
Synonyms	Bancroftian filariasis, Rosetta leg, Wuchereria bancrofti. ICD9: 125.0 ICD10: B74.0

Filariasis - Bancroftian in Gambia

Time and Place

Filariasis in this country is nocturnally periodic.

- 86.6% of the population were at risk for Bancroftian filariasis as of 2000.
- During 1997 to 2000, no infested individuals were identified in two of three previously-endemic divisions.
- A survey conducted in 2003 showed that transmission had been interrupted in all 21 districts. ¹

1,200,000 individuals were at risk as of 2014. ²

Prevalence surveys

Years	Region	Study Group	%	Notes
1952 - 1954	Multiple locations	general population	40-50	40% to 50% in coastal and inland regions ³

Vectors:

- The local vector is *Anopheles melas*.
- *Culex quinquefasciatus* is also implicated.

References

1. PLoS Negl Trop Dis 2015 Mar ;9(3):e0003642.
2. Wkly Epidemiol Rec 2015 Sep 18;90(38):489-504.
3. Bull World Health Organ 1957 ;16(3):581-92.

Fungal infection - invasive

Agent	FUNGUS. Various (major syndromes such as Candidiasis, Blastomycosis, etc are discussed separately in this module)
Reservoir	Human
Vector	None
Vehicle	Endogenous, Respiratory or pharyngeal acquisition
Incubation Period	Variable
Diagnostic Tests	Culture of blood, urine, biopsy material. Serum antigen or antibody assay in some cases.
Typical Adult Therapy	Antifungal agent(s) directed at known or likely pathogen
Typical Pediatric Therapy	As for adult
Clinical Hints	- Fungal etiology should be suspected in any patient with evidence of severe local or multisystem infection - Commonly encountered in the setting of immune suppression
Synonyms	Acremonium, Acrophialophora, Adiaspiromycosis, Allescheriasis, Alternaria, Arthrographis kalrae, Athopsis, Aureobasidium, Bipolaris, Blastobotrys proliferans, Chaetomium, Chrysosporium, Cladophialophora, Cladosporium, Curvularia, Cyphellophora, Dactylaria, Debaryomyces, Dreschslera, Emergomyces, Emmonsia, Exophiala, Exserohilum, Fonsecaea, Fungal meningitis, Fungal sepsis, Fusarium, Geosmithia, Geosmithia argillacea, Geotrichosis, Graphium, Hansenula, Haplomycosis, Hendersonula, Humicola, Hyalophycomycosis, Kluyveromyces, Lasiodiplodia, Lasiodiplodia, Lecythophora, Magnusiomyces, Malassezia furfur, Monascus, Monosporiosis, Mycocentrospora, Neocosmospora vasinfecta, Neosartorya hiratsukae, Neosartorya udagawae, Ochroconis, Oidiiodendron, Paecilomyces, Paraconiothyrium, Pestalotiopsis, Phaeoacremonium, Phaeohyphomycosis, Phialemoniopsis, Phialophora, Phoma, Pichia, Pseudallescheria, Pseudallescheriasis, Pseudochaetosphaeronema martinelli, Purpureocillium, Pyrenophaeta, Ramichloridium, Rhinocladiella, Rhytidhysteron, Saccharomyces, Saprochaete, Sarcopodium, Sarocladium, Scedosporium, Septicemia - fungal, Taeniolella, Thielavia, Trichoderma, Truncatella, Ulocladium, Veronacea, Verruconis, Wallemia. ICD9: 117.6,117.8,117.9,118 ICD10: B43.1,B43.2,B43.8,B48.2,B48.3,B48.7,B48.8

Gastroenteritis - viral

Agent	VIRUS - RNA Calicivirus (Norwalk, Hawaii, Sapporo, Snow Mountain, Norovirus); Torovirus; or Astrovirus
Reservoir	Human
Vector	None
Vehicle	Food, Water, Shellfish, Vegetables
Incubation Period	Norwalk 1d - 2d; Astrovirus 3d - 4d
Diagnostic Tests	Demonstration of virus (electron microscopy or stool antigen analysis). Serology. Nucleic acid amplification.
Typical Adult Therapy	Stool precautions; supportive
Typical Pediatric Therapy	As for adult
Clinical Hints	- Vomiting (less common with Astrovirus) and abdominal pain - Loose, watery diarrhea lasting 1 to 3 days - Fecal leucocytes not present - Fever in 50% - Headache or myalgia in some cases
Synonyms	Aichi, Astroviridae, Astrovirus, Bufavirus, Calicivirus gastroenteritis, Chiba, Cosavirus, Cyclovirus, Diarrhea, Gastroenterite virale, Hawaii agent gastroenteritis, Klassevirus, Mexico virus, Mini-reovirus, Minireovirus, Norovirus gastroenteritis, Norwalk agent gastroenteritis, Norwalk-like, Parkville virus gastroenteritis, Picobirnavirus, Recovirus, Roskilde disease, Saffold Cardiovirus, Salivirus, Salivirus, Sapovirus, Sapporo, Sapporo-like, Snow Mountain, SRSV gastroenteritis, STL polyomavirus, STLPyV, Toronto virus, Torovirus, Tusavirus, Vinterkraksjuka, Viral gastroenteritis, Winter vomiting disease. ICD9: 008.8,008.69,008.62,008.63,008.64,008.65,008.66,008.67 ICD10: A08.1,A08.2,A08.3,A08.4

Gianotti-Crosti syndrome

Agent	UNKNOWN
Reservoir	Unknown
Vector	None
Vehicle	Unknown
Incubation Period	Unknown
Diagnostic Tests	Clinical features and skin biopsy findings.
Typical Adult Therapy	None
Typical Pediatric Therapy	None
Clinical Hints	<ul style="list-style-type: none">- History of recent viral illness or vaccination- Generalized skin eruption involving the extremities, face and buttocks- Lymphadenopathy of the axillae and inguinal region- Anicteric hepatitis may occur- Illness resolves in 15 to 42 days- Rare outbreaks have been reported
Synonyms	Acrodermatitis papulosa infantilis, Papular acrodermititis of childhood, Papulovesicular acrolocated syndrome. ICD9: 693.0 ICD10: L27.8

Giardiasis

Agent	PARASITE - Protozoa. Sarcomastigophora, Metamonada, Trepomonadea. Flagellate: <i>Giardia lamblia</i> (<i>G. intestinalis</i> , <i>G. duodenalis</i>)
Reservoir	Human, Beaver, Muskrat, Dog, Cat, Carnivores, Sheep, Goat, Horse, Cattle
Vector	None
Vehicle	Food, Water, Fecal-oral, Fly
Incubation Period	1w - 3w (range 3d - 6w)
Diagnostic Tests	String test (gelatin capsule containing string). Stool microscopy or antigen assay. Nucleic acid amplification.
Typical Adult Therapy	Tinidazole 2 g PO X1. OR Nitazoxanide 500 mg PO BID X 3d Alternatives: Metronidazole 250 mg PO TID X 5d. OR Furazolidone 100 mg PO QID X 7d. OR Paromomycin 10 mg/kg PO TID X 7d OR Quinacrine 100 mg PO TID X 5d
Typical Pediatric Therapy	Tinidazole 50 mg PO X 1 (maximum 2g). OR Nitazoxanide : Age 1 to 3y 100 mg BID X 7 d Age 4 to 11y 200 mg BID X 7d Alternatives: Metronidazole 5 mg/kg PO TID X 5d. OR Furazolidone 1.5 mg/kg QID X 7d
Clinical Hints	- Foul smelling, bulky diarrhea - Nausea and flatulence - Upper abdominal pain is common - Illness may "wax and wane" - Weight loss and low-grade fever are common - Severe or intractable infection may suggest underlying IgA deficiency
Synonyms	Beaver fever, Giardia duodenalis, Giardia intestinalis, Giardia lamblia, Lambliasis. ICD9: 007.1 ICD10: A07.1

Giardiasis in Gambia

Prevalence surveys

Years	Region	Study Group	%	Notes
2004*		children	26	26% of children ages <=15 months ¹
2015*	Kiang West Province	food handlers	3.1	3.1% of food handlers in Kiang West Province ²

* indicates publication year (not necessarily year of survey)

Seroprevalence surveys

Years	Study Group	%	Notes
1999*	children	95	95% of infants by age 8 months ³

* indicates publication year (not necessarily year of survey)

References

1. J Pediatr Gastroenterol Nutr 2004 Aug ;39(2):153-7.
2. Trans R Soc Trop Med Hyg 2015 May ;109(5):334-9.
3. J Nutr 1999 Apr ;129(4):872-7.

Gonococcal infection

Agent	BACTERIUM. <i>Neisseria gonorrhoeae</i> An aerobic gram-negative coccus
Reservoir	Human
Vector	None
Vehicle	Sexual, contact, Childbirth, Exudates, Respiratory or pharyngeal acquisition
Incubation Period	2d - 7d
Diagnostic Tests	Smear (male), culture. Consult laboratory for proper acquisition & transport. Nucleic acid amplification.
Typical Adult Therapy	Ceftriaxone 250 mg IM X 1. PLUS Azithromycin 1 g PO as single dose.
Typical Pediatric Therapy	Weight <=45 kg: Ceftriaxone 25 - 50 mg/kg IM or IV X 1 (max. 125 mg IM) Weight >45 kg: as for adult. PLUS Azithromycin
Clinical Hints	- Onset 2 to 7 days after sexual exposure - Copious urethral discharge (male) or cervicitis - Pelvic inflammatory disease - Systemic disease associated with fever, painful pustules and suppurative arthritis (primarily encountered in postmenstrual females)
Synonyms	Blennorragie, Blenorragia, Gonococcemia, Gonore, Gonorre, Gonorea, Gonorrhea, Gonorrhée, Gonorrhœ, Gonorrhœe, Infección gonocócica, Infeccoes gonococicas, Neisseria gonorrhœae. ICD9: 098 ICD10: A54

Gonococcal infection in Gambia

Prevalence surveys

Years	Study Group	%	Notes
1984 *	pregnant women	6.7	6.7% of pregnant women ¹

* indicates publication year (not necessarily year of survey)

References

1. Bull World Health Organ 1990 ;68(5):639-54.

Granuloma inguinale

Agent	BACTERIUM. <i>Klebsiella granulomatis</i> (formerly <i>Calymmatobacterium granulomatis</i>) A gram-negative bacillus
Reservoir	Human
Vector	None
Vehicle	Sexual, contact, Direct contact
Incubation Period	7d - 30d (range 3d - 1 year)
Diagnostic Tests	Identification of organism in stained smears. Culture in specialized laboratories (HEp-2 cells).
Typical Adult Therapy	Azithromycin 1 g weekly X 3 w. Alternatives: Doxycycline 100 mg BID PO X 3w. Sulfamethoxazole / Trimethoprim 800/160 mg BID X 3w Erythromycin 500 mg QID X 3w.
Typical Pediatric Therapy	Azithromycin 10 mg / kg po day 1; then 250 mg / kg daily days 2 to 5 Alternatives: Sulfamethoxazole / Trimethoprim , Erythromycin or Doxycycline
Clinical Hints	- Slowly expanding, ulcerating skin nodule with friable base - Usually painless - May be complicated by edema or secondary infection - Rarely spreads to bone or joints
Synonyms	Calymmatobacterium granulomatis, Donovanosis, Granuloma genitoinguinale, Granuloma inguinale tropicum, Granuloma venereum, Sixth venereal disease. ICD9: 099.2 ICD10: A58

Hepatitis A

Agent	VIRUS - RNA. Picornaviridae, Hepatovirus: Hepatitis A virus
Reservoir	Human, Non-human primate
Vector	None
Vehicle	Fecal-oral, Food, Water, Milk, Fly, Breastfeeding
Incubation Period	21d - 30d (range 14d - 60d)
Diagnostic Tests	Serology. Nucleic acid amplification.
Typical Adult Therapy	Stool precautions; supportive
Typical Pediatric Therapy	As for adult
Vaccines	Hepatitis A vaccine Hepatitis A + Hepatitis B vaccine Immune globulin
Clinical Hints	- Vomiting, anorexia, dark urine, light stools and jaundice - Rash and arthritis occasionally encountered - Fulminant disease, encephalopathy and fatal infections are rare - Case-fatality rate 0.15% to 2.7%, depending on age
Synonyms	Botkin's disease, Epatite A, HAV, Hepatite per virus A, Infectious hepatitis. ICD9: 070.0 ICD10: B15.0, B15.9

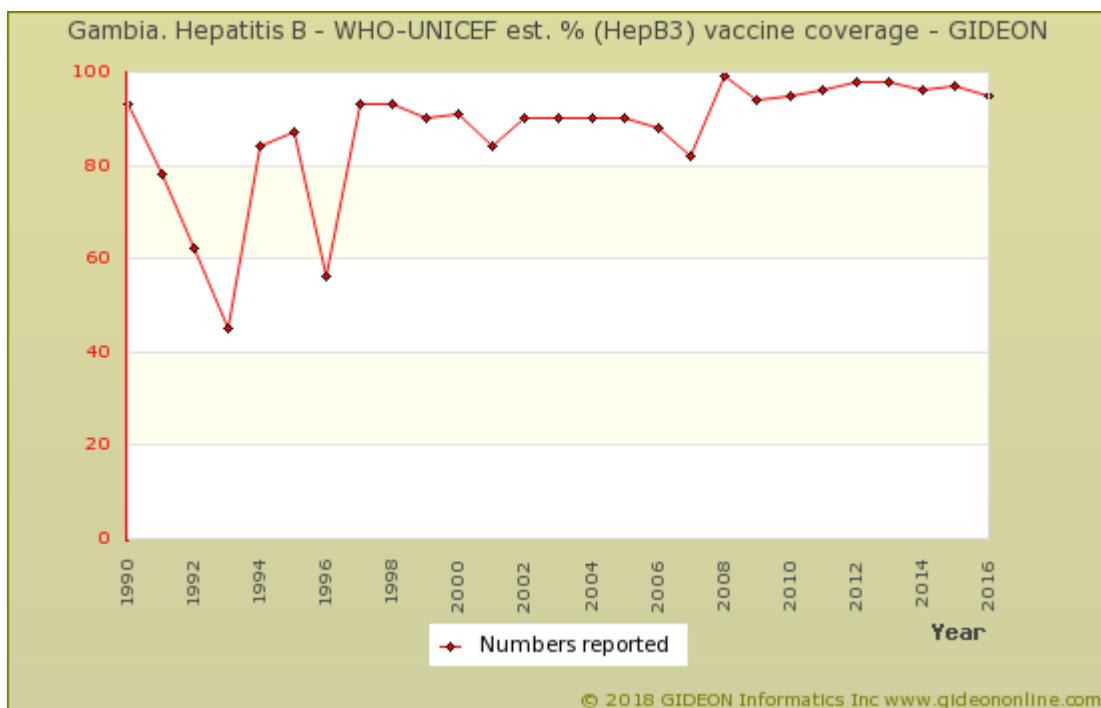
Hepatitis B

Agent	VIRUS - DNA. Hepadnaviridae, Orthohepadnavirus: Hepatitis B virus
Reservoir	Human Non-human primate
Vector	None
Vehicle	Blood, Infected secretions, Sexual contact, Transplacental
Incubation Period	2m - 3m (range 1m - 13m)
Diagnostic Tests	Serology. Nucleic acid amplification.
Typical Adult Therapy	Needle precautions. For chronic infection: Peginterferon alfa-2a or Peginterferon alfa-2b OR Entecavir OR Tenofovir
Typical Pediatric Therapy	As for adult
Vaccines	Hepatitis A + Hepatitis B vaccine Hepatitis B + Haemoph. influenzae vaccine Hepatitis B immune globulin Hepatitis B vaccine
Clinical Hints	- Vomiting and jaundice - Rash or arthritis occasionally noted - Fulminant and fatal infections are encountered - Risk group (drug abuse, blood products, sexual transmission) - Hepatic cirrhosis or hepatoma may follow years after acute illness
Synonyms	Epatite B, HBV, Hepatite per virus B, Serum hepatitis. ICD9: 070.1 ICD10: B16.2,B16.9, B16.1

Hepatitis B in Gambia

Vaccine Schedule:

BCG - birth
 DTwP - 18-24 months; booster
 DTwPHibHepB - 2,3,4 months
 HepB - birth
 HPV - 9-13 years; +6 months
 IPV - 4 months
 Measles - 9,18 months
 OPV - birth 2, 3, 4, 9,18 months
 Pneumo conj - 2,3,4 months
 Rotavirus - 2,3,4 months
 TT - 1st contact; +1, +6 months; +1, +2 year
 YF - 9 months



Graph: Gambia. Hepatitis B - WHO-UNICEF est. % (HepB3) vaccine coverage

HBsAg-positivity surveys

Years	Region	Study Group	%	Notes
2007 - 2008	Multiple locations	general population	0.8	0.8% of adult villagers (2007 to 2008) ¹
1997 - 2001		patients - hepatocellular carcinoma	60	60% of patients with hepatocellular carcinoma (1997 to 2001) ²
2004 *	Multiple locations	patients - hepatocellular carcinoma	61	61% of patients with hepatocellular carcinoma vs. 16% of healthy controls (2004 publication) ³
2010 *		patients - HIV/AIDS	12.2	12.2% of HIV-positive patients (2010 publication) ⁴
2015 - 2016	Brikama	patients - HIV/AIDS	12.3	⁵

* indicates publication year (not necessarily year of survey)

The prevalence of chronic infection among children in Gambia declined from 10.0% to 0.6% following the introduction of universal infant immunization.

References

- 1. BMC Infect Dis 2014 Jan 07;14:7.
- 2. Liver Int 2011 Feb ;31(2):215-21.
- 3. Hepatology 2004 Jan ;39(1):211-9.
- 4. Virol J 2010 Sep 15;7:230.
- 5. PLoS One 2017 ;12(6):e0179025.

Hepatitis C

Agent	VIRUS - RNA. Flaviviridae, Hepacivirus: Hepatitis C virus
Reservoir	Human
Vector	None
Vehicle	Blood, Sexual contact, Transplacental
Incubation Period	5w - 10w (range 3w - 16w)
Diagnostic Tests	Serology. Nucleic acid amplification.
Typical Adult Therapy	Needle precautions. For chronic infection: Ledipasvir / Sofusuvir OR Ombitasvir-Paritaprevir-Ritonavir + Dasabuvir + Ribavirin OR Sofusuvir + Simeprevir + Ribavirin (Regimen / Duration dependent on viral genotype)
Typical Pediatric Therapy	Agents recommended for adult disease are not currently licensed for use in children Peginterferon alfa-2b 3 MU/m ² SC x1 weekly AND Ribavirin 15mg/kg
Clinical Hints	- Vomiting and jaundice - May be history of transfusion or injection within preceding 1 to 4 months - Chronic hepatitis and fulminant infections are encountered - Hepatic cirrhosis or hepatoma may follow years after acute illness
Synonyms	Epatite C, HCV, Hepatite per virus C, Non-A, non-B parenteral hepatitis. ICD9: 070.2,070.3,070.44,070.51,070.54,070.7 ICD10: B17.1

Hepatitis C in Gambia

Seroprevalence surveys

Years	Region	Study Group	%	Notes
2002	Banjul	blood donors	1.1	1.1% of first-time blood donors (2002) 1
2009*	Banjul	patients	2.1	2.1% of persons screened at a teaching hospital in Banjul (2009 publication) 2
1997 - 2001		patients - hepatocellular carcinoma	20	20% of patients with hepatocellular carcinoma (1997 to 2001) 3
2004*	Multiple locations	patients - hepatocellular carcinoma	19	19% of patients with hepatocellular carcinoma (and 3% of healthy controls) (2004 publication) 4
2002		patients - HIV/AIDS	0.6	0.6% of HIV-positive patients (2002) 5
2010*		patients - HIV/AIDS	0.9	0.9% of HIV-positive patients (2010 publication) 6

* indicates publication year (not necessarily year of survey)

References

- 1. [Br J Biomed Sci 2005 ;62\(2\):89-91.](#)
- 2. [West Afr J Med 2009 Jan ;28\(1\):16-9.](#)
- 3. [Liver Int 2011 Feb ;31\(2\):215-21.](#)
- 4. [Hepatology 2004 Jan ;39\(1\):211-9.](#)
- 5. [Br J Biomed Sci 2010 ;67\(3\):140-4.](#)
- 6. [Virol J 2010 Sep 15;7:230.](#)

Hepatitis D

Agent	VIRUS - RNA. Deltavirus: Hepatitis D virus - a 'satellite' virus which is encountered as infection with a co-virus (Hepatitis B)
Reservoir	Human
Vector	None
Vehicle	Infected secretions, Blood, Sexual contact
Incubation Period	4w - 8w (range 2w - 20w)
Diagnostic Tests	Serology. Nucleic acid amplification.
Typical Adult Therapy	Needle precautions; supportive <i>Interferon alfa 2-a</i> has been used.
Typical Pediatric Therapy	As for adult
Clinical Hints	- Vomiting and jaundice - Biphasic course often noted - Occurs as a coinfection or superinfection of hepatitis B - May be chronic or fulminant - Hepatitis D coinfection worsens prognosis of Hepatitis B
Synonyms	Epatite D, Hepatitis delta. ICD9: 070.41,070.52 ICD10: B17.0

Hepatitis E

Agent	VIRUS - RNA. Hepeviridae: Hepatitis E virus
Reservoir	Human, Rodent, Pig, Rabbit
Vector	None
Vehicle	Fecal-oral, Water, Shellfish, Blood, Meat
Incubation Period	30d - 40d (range 10d - 70d)
Diagnostic Tests	Identification of virus by immune electron microscopy (stool). Serology. Nucleic acid amplification.
Typical Adult Therapy	Stool precautions; supportive Ribavirin has been used successfully in high-risk patients.
Typical Pediatric Therapy	As for adult
Vaccine	Hepatitis E vaccine
Clinical Hints	- Clinically similar to hepatitis A - Chronic residua are rare - Severe or fatal if acquired during pregnancy (10% to 24% case-fatality rate).
Synonyms	Epatite E, Non-A, non-B enteric hepatitis. ICD9: 070.43,070.53 ICD10: B17.2

Hepatitis E in Gambia

Seroprevalence surveys

Years	Study Group	%	Notes
2015*	general population	13.7	13.7% of healthy individuals (2015 publication) 1

* indicates publication year (not necessarily year of survey)

References

1. [Aliment Pharmacol Ther 2016 Feb ;43\(3\):375-84.](#)

Herpes B infection

Agent	VIRUS - DNA. Herpesviridae, Alphaherpesviridae, Simplexvirus: Cercopithecine herpesvirus 1 (Herpes B virus)
Reservoir	Monkey (<i>Macaca species</i> and <i>Cynomolgus</i>)
Vector	None
Vehicle	Contact or bite, Respiratory or pharyngeal acquisition
Incubation Period	10d - 20d (range 2d - 60d)
Diagnostic Tests	Viral culture (skin exudates). Nucleic acid amplification. Biosafety level 4.
Typical Adult Therapy	Therapy: Acyclovir 12 mg/kg IV q8h. OR Ganciclovir 5 mg/kg IV q12h. Follow with prolonged Acyclovir 800 mg PO 5X daily. Postexposure prophylaxis: Valacyclovir 1g PO q8h X 14 days. OR Acyclovir 800 mg PO X 5 X 14 days
Typical Pediatric Therapy	Acyclovir or Ganciclovir as for adult.
Clinical Hints	- Skin vesicles, lymphadenopathy, myalgia, singultus, major neurological signs - Usually onset within one month of contact with monkey - Case-fatality rates exceed 80% - Permanent neurological residua are common
Synonyms	Cercopithecine herpesvirus 1, Herpes B, Herpesvirus simiae, Macacine herpesvirus 1, McHV-1. ICD9: 078.89 ICD10: B00.4

Herpes simplex encephalitis

Agent	VIRUS - DNA. Herpesviridae, Alphaherpesvirinae, Simplexvirus: Human herpesvirus (usually type I)
Reservoir	Human
Vector	None
Vehicle	Infected secretions, Sexual contact
Incubation Period	Unknown
Diagnostic Tests	Viral culture CSF usually negative. CT brain. Compare CSF/blood antibody levels. Nucleic acid amplification.
Typical Adult Therapy	Acyclovir 10 mg/kg IV Q8h
Typical Pediatric Therapy	Acyclovir 10 mg/kg IV Q8h
Clinical Hints	- Rapidly-progressive severe encephalitis - Exanthem not evident in most cases - Often unilateral, with temporal and parietal lobe predominance - Permanent residua and high case-fatality rate in untreated cases
Synonyms	

Herpes simplex infection

Agent	VIRUS - DNA. Herpesviridae, Alphaherpesvirinae, Simplexvirus: Human herpesvirus I and II
Reservoir	Human
Vector	None
Vehicle	Infected secretions, Sexual contact, Breastfeeding, Respiratory or pharyngeal acquisition
Incubation Period	1d - 14d
Diagnostic Tests	Viral culture or microscopy of lesions. Serology. Nucleic acid amplification.
Typical Adult Therapy	Famciclovir 250 mg PO TID X 7d. OR Valacyclovir 1 g PO BID X 7d OR Acyclovir 400 mg PO X 3 per day X 7d Dosage and duration may vary for first vs. recurrent vs. suppressive regimens.
Typical Pediatric Therapy	Acyclovir 10 mg/kg PO QID X 7 d
Clinical Hints	- Recurring localized crops of painful vesicles on a red base - Regional adenopathy often present - May follow a prodrome of neuropathy or hyperesthesia
Synonyms	Herpes gladiatorum, Herpes rugbiorum, Herpes simplex, Scrum pox. ICD9: 054.0,054.1,054.2,054.4,054.5,054.6,054.7,054.8,054.9 ICD10: A60,B00

Herpes simplex infection in Gambia

Prevalence surveys

Years	Region	Study Group	%	Notes
1987*	Banjul	patients - STD	6	6% of genital ulcer disease treated in STD clinics (1987 publication) ¹

* indicates publication year (not necessarily year of survey)

Seroprevalence surveys

Years	Region	Study Group	%	Notes
2008	Western Division	general population	28	28% of women and 2% of men in rural Gambia (HSV-2, 2001 publication) ²
2003*		women	16-35	16% of non-married women and 36% of married women in rural Gambia (HSV-2, 2003 publication) ³

* indicates publication year (not necessarily year of survey)

References

1. Genitourin Med 1987 Oct ;63(5):312-5.
2. Sex Transm Infect 2001 Oct ;77(5):358-65.
3. AIDS 2003 Jan 03;17(1):97-103.

Herpes zoster

Agent	VIRUS - DNA. Herpesviridae, Alphaherpesvirinae: Varicella-zoster virus
Reservoir	Human
Vector	None
Vehicle	Air, Direct contact
Incubation Period	Unknown
Diagnostic Tests	Viral culture (vesicles). Serology. Nucleic acid amplification.
Typical Adult Therapy	Acyclovir 800 mg PO X 5 daily X 7 to 10d. OR Famciclovir 500 PO TID. OR Valacyclovir 1 g PO TID
Typical Pediatric Therapy	Acyclovir 20 mg/kg PO QID X 7 to 10d
Vaccine	Herpes zoster vaccine
Clinical Hints	- Patients usually above age 50 - Unilateral dermatomal pain, tenderness and paresthesia - Rash appears after 3 to 5 days - macular, erythematous lesions which evolve into vesicles - Trunk and chest wall most commonly involved; but eyes, extremities and other areas also affected - Recurrence is common
Synonyms	Fuocodi Saint'Antonio, Shingles, Zona, Zoster. ICD9: 053 ICD10: B02

Histoplasmosis - African

Agent	FUNGUS. Ascomycota, Euascomycetes, Onygenales: <i>Histoplasma capsulatum</i> var. <i>duboisii</i> A dimorphic fungus
Reservoir	Bat, Chicken, Baboon, Bird
Vector	None
Vehicle	Air
Incubation Period	Unknown
Diagnostic Tests	Fungal culture or biopsy.
Typical Adult Therapy	Amphotericin B ; or Ketoconazole
Typical Pediatric Therapy	As for adult
Clinical Hints	- Skin nodule, abscess or ulcer - Underlying bone lesions (skull, femur and ribs) are common - Lesions may be multiple and associated with lymphadenopathy and weight loss
Synonyms	African histoplasmosis. ICD9: 115.1 ICD10: B39.5

Although Histoplasmosis - African is not endemic to Gambia, imported, expatriate or other presentations of the disease have been associated with this country.

Histoplasmosis - African in Gambia

One case was reported during 1952 to 2017. ¹

References

1. PLoS Negl Trop Dis 2018 Jan ;12(1):e0006046.

HIV infection - initial illness

Agent	VIRUS - RNA. Retroviridae, Lentivirinae: Human Immunodeficiency Virus
Reservoir	Human
Vector	None
Vehicle	Blood, Semen, Sexual contact, Transplacental, Breastfeeding
Incubation Period	1w - 6w
Diagnostic Tests	HIV antibody (ELISA, Western blot). HIV or HIV antigen assays. Nucleic acid amplification.
Typical Adult Therapy	Antiretroviral therapy - most experts will initiate treatment even if no symptoms + normal CD4 count.
Typical Pediatric Therapy	Antiretroviral therapy - most experts will initiate treatment even if no symptoms + normal CD4 count.
Clinical Hints	- Most common among "high risk" patients (illicit drug use, commercial sex work, men who have sex with men, etc) - Fever, diarrhea, sore throat and a mononucleosis-like illness - Symptoms subside within two weeks; but may persist for as long as ten weeks
Synonyms	HIV, HIV infection, HTLV-III infection. ICD9: 042 ICD10: B20,B21,B22,B23,B24

HIV infection - initial illness in Gambia

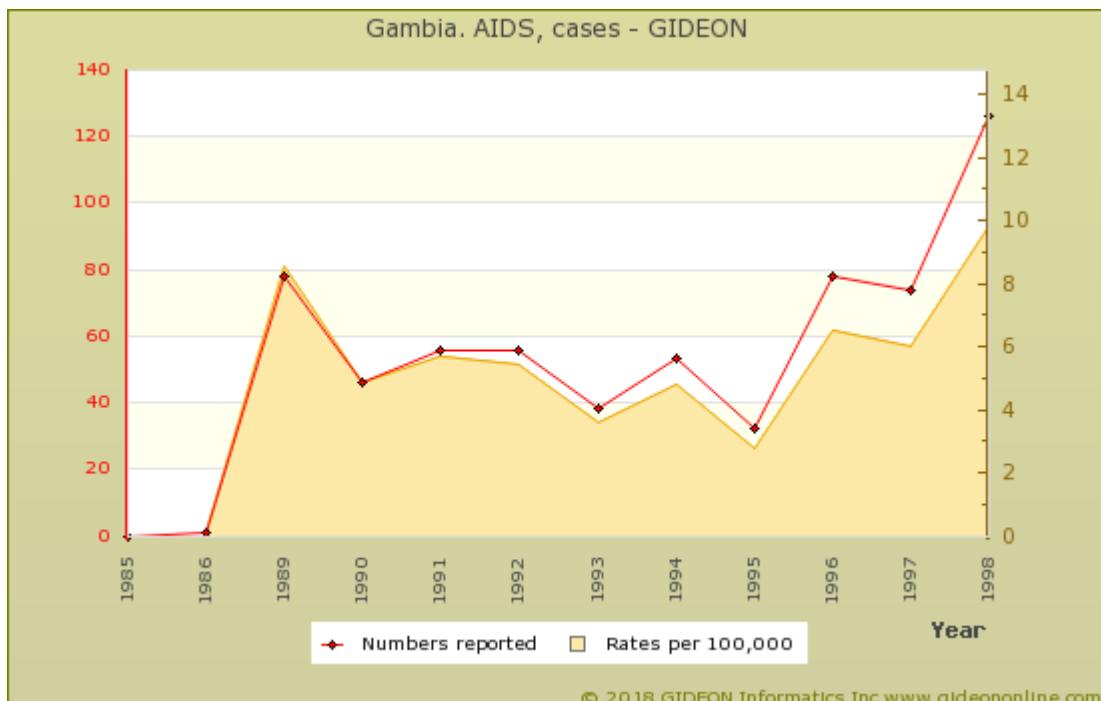
Data and background information regarding HIV infection are included in the note for **HIV/AIDS**

HIV/AIDS

Agent	VIRUS - RNA. Retroviridae, Lentivirinae: Human Immunodeficiency Virus, HIV
Reservoir	Human
Vector	None
Vehicle	Blood, Semen, Sexual, Transplacental, Breastfeeding
Incubation Period	2m - 10y (50% within 10y)
Diagnostic Tests	HIV antibody (ELISA, Western blot). Nucleic acid amplification. Tests for HIV antigen & viral load as indicated.
Typical Adult Therapy	Nucleoside/-nucleotide reverse transcriptase inhibitor + A Non-nucleoside reverse transcriptase inhibitor OR a Protease Inhibitor OR a Strand-transfer integrase inhibitor
Typical Pediatric Therapy	Regimens vary - in general: 2 Non-nucleoside reverse transcriptase inhibitors + Ritonavir / Lopinavir OR Nevirapine OR Atazanavir
Clinical Hints	- Most often associated with drug abuse, blood products, men who have sex with men, hemophilia - Severe and multiple episodes of infection (herpes simplex, moniliasis, candidiasis, etc) - Chronic cough, diarrhea, weight loss, lymphadenopathy, retinitis, encephalitis or Kaposi's sarcoma
Synonyms	AIDS, ARC, Gay cancer, GRID, HIV-1, HIV-2, HIV-AIDS, SIDA, Slim disease. ICD9: 042 ICD10: B20,B21,B22,B23,B24

HIV/AIDS in Gambia

The first case of AIDS was reported in 1986.



Graph: Gambia. AIDS, cases

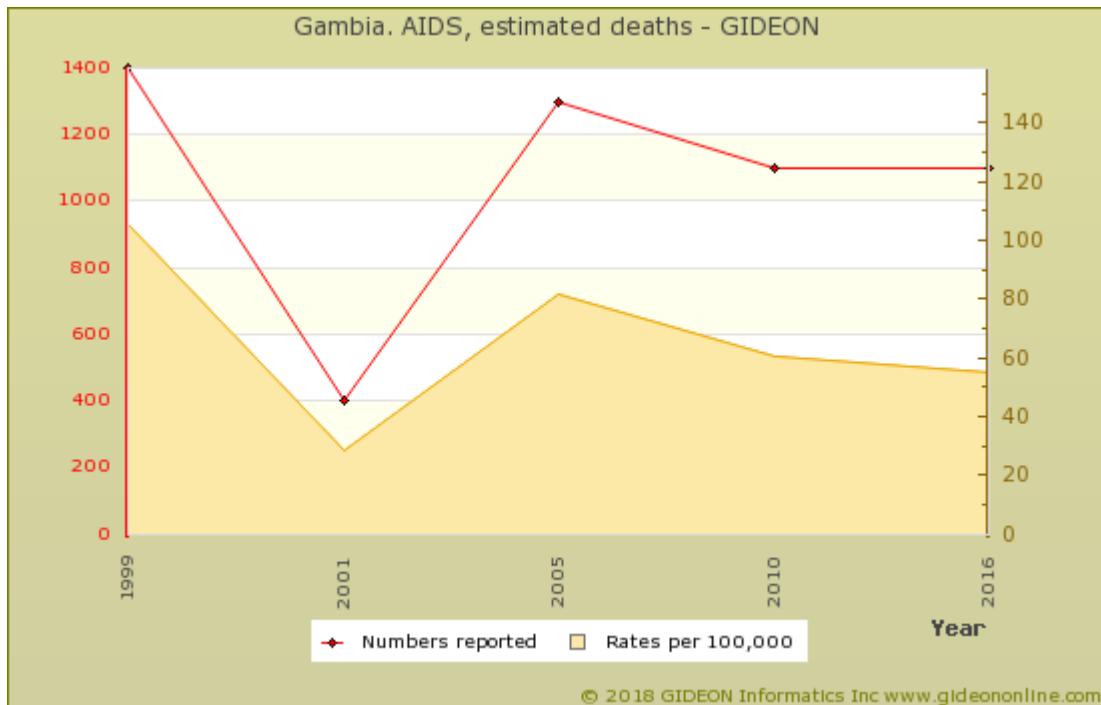
Notes:

1. The true number of AIDS cases to December 1997 was estimated at 11,000.

637 cases of AIDS were officially reported as of June 1999.

Demography and risk factors:

- Cases to December 1997: 80% ages 15 to 49; 62% males; 94% heterosexual; 6% mother to infant.
- Cases during 1996 to 1998: 75% ages 15 to 49; 56% males; 91% heterosexual; 0% men who have sex with men; 0% IDU; 0% transfusion/hemophilia; 9% mother to infant.



Graph: Gambia. AIDS, estimated deaths

Notes:

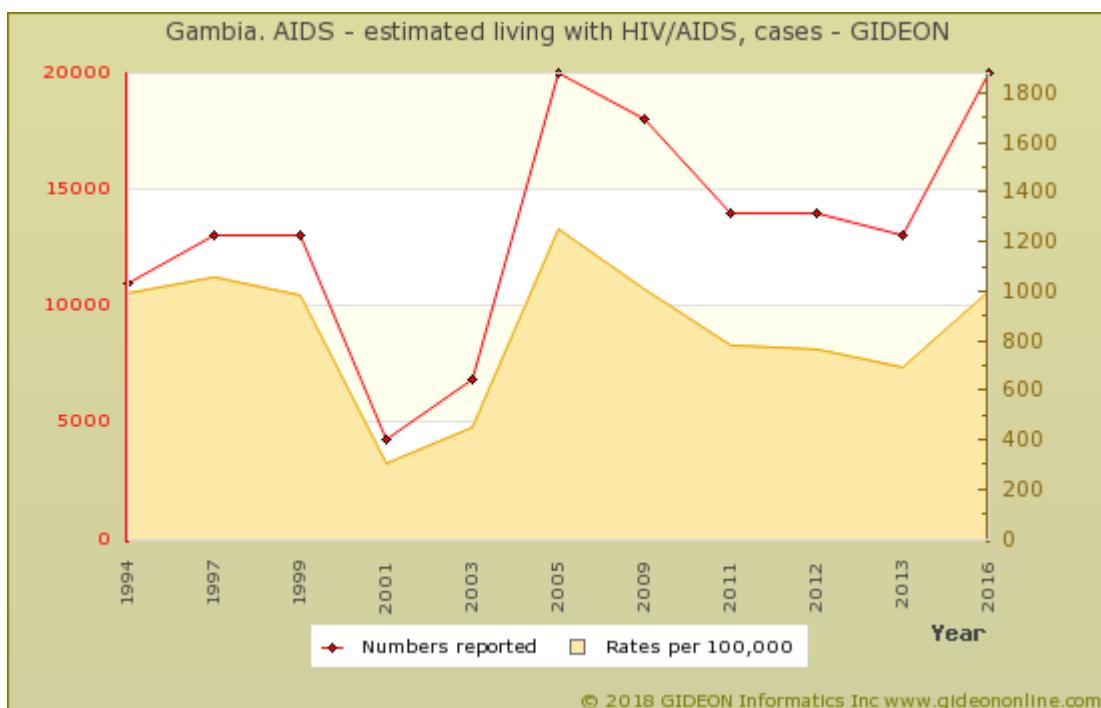
1. 9,800 AIDS orphans were estimated to December 1999; 5,300 in 2001.

2. An estimated 2,800 AIDS orphans were alive in 2003; 3,800 in 2005.

Seroprevalence surveys

Years	Region	Study Group	%	Notes
1996		men	5.6	urban males
1991		patients - STD	4.7	
2003*		patients - tuberculosis	8.3 ¹	
2006*	Banjul	patients - tuberculosis	6.1	6.1% of tuberculosis patients, and 3.3% of controls ²
1993 - 1995		pregnant women	0.6	
1993		pregnant women	0.18	
1994		pregnant women	0.6	
1997		pregnant women	1-2.4	1% urban; 2.4% rural
2000 - 2001	Multiple locations	pregnant women	1-3	1.0% to 3.0% during 2000 to 2001 ³
2007 - 2014	Banjul	pregnant women	1.8	HIV / AIDS was identified in 1.8% of maternal mortality cases ⁴
1993		sex workers	13.6	
2009*	Banjul	testing center	6.7	6.7% of persons screened at a teaching hospital in Banjul ⁵

* indicates publication year (not necessarily year of survey)



Graph: Gambia. AIDS - estimated living with HIV /AIDS, cases

Notes:

1. Figure for 1997 represented 2.24% of all adults; 1.6% in 2001; 1.2% in 2003.

Associated Infections:

12.2% of HIV-positive patients were found to be HBsAg-positive and 0.9% seropositive toward Hepatitis C (2010 publication)
⁶

- 12.3% of HIV-positive patients were found to be HBsAg-positive (Brikama, 2015 to 2016)⁷
- 0.6% of HIV-positive patients were found to be seropositive toward Hepatitis C (2002)⁸

References

1. Int J Tuberc Lung Dis 2003 Oct ;7(10):942-7.
2. BMC Public Health 2006 Jun 19;6:156.
3. AIDS 2003 Aug 15;17(12):1841-6.
4. BMC Res Notes 2017 Oct 06;10(1):493.
5. West Afr J Med 2009 Jan ;28(1):16-9.
6. Virol J 2010 Sep 15;7:230.
7. PLoS One 2017 ;12(6):e0179025.
8. Br J Biomed Sci 2010 ;67(3):140-4.

Hookworm

Agent	PARASITE - Nematoda. Secernentea: <i>Necator americanus</i> , <i>Ancylostoma duodenale</i> , <i>A. ceylonicum</i> (in Kolkata and the Philippines)
Reservoir	Human, Non-human primates
Vector	None
Vehicle	Soil, Contact
Incubation Period	7d - 2y
Diagnostic Tests	Examination of stool for ova.
Typical Adult Therapy	Albendazole 400 mg X 1 dose. OR Mebendazole 100 mg BID X 3d. OR Pyrantel pamoate 11 mg/kg (max 3g) X 3d
Typical Pediatric Therapy	Albendazole 200 mg PO single dose OR Mebendazole 100 mg BID X 3 d (> age 2).
Clinical Hints	- Pruritic papules, usually on feet - Later cough and wheezing - Abdominal pain and progressive iron-deficiency anemia - Eosinophilia is common - Dyspnea and peripheral edema in heavy infections
Synonyms	Anchilostoma, Ancylostoma ceylanicum, Ancylostoma duodenale, Ancylostomiasis, Anquilostomiasis, Cyclodontostomum, Eosinophilis enteritis, Hakenwurmer-Befall, Miner's anemia, Necator americanus, Necator gorillae, Necatoriasis, Uncinariasis. ICD9: 126.0,126.1 ICD10: B76.0,B76.1,B76.8

Hookworm in Gambia

Prevalence surveys

Years	Region	Study Group	%	Notes
2015*	Kiang West	food handlers	7.8	7.8% of food handlers in Kiang West Province (2015 publication) ¹
1995*		general population	30	30% of individuals in rural Gambia (1995 publication) ²

* indicates publication year (not necessarily year of survey)

References

1. Trans R Soc Trop Med Hyg 2015 May ;109(5):334-9.
2. East Afr Med J 1995 Aug ;72(8):527-30.

HTLV Infections

Agent	VIRUS - RNA Retroviridae. Deltaretrovirus Human T-lymphotrophic virus I to IV (disease limited to I and II)
Reservoir	Human Non-human primate
Vector	None
Vehicle	Blood, Needles, Semen, Sexualcontact, Transplacental, Breastfeeding, Meat (bush-meat)
Incubation Period	Variable
Diagnostic Tests	Serology Nucleic acid amplification
Typical Adult Therapy	Specific therapy not available. Advanced symptomatic disease has been treated with combinations of Zidovudine and Interferon, Cyclosporine, or anti-neoplastic agents
Typical Pediatric Therapy	As of adult
Clinical Hints	- Overt disease is evident in only 1% to 5% of infections - Increased susceptibility to pyoderma, sepsis, bronchiectasis - Keratoconjunctivitis sicca or uveitis - Late development of tropical spastic paraparesis or T-cell leukemia/lymphoma
Synonyms	Adult T-cell leukemia / lymphoma, HTLV-1, HTLV-1/2, HTLV-2, HTLV-4, HTLV-I, HTLV-I/II, HTLV-II, HTLV-IV, Human T-cell lymphotropic virus, Human T-lymphotropic virus, Primate T-lymphotropic virus, PTLV-1, Tropical spastic paraparesis. ICD9: 204.0,208.9 ICD10: C83,C88,G04.1

Human herpesvirus 6 infection

Agent	VIRUS - DNA. Herpesviridae, Betaherpesvirinae, Roseolovirus: Herpesvirus 6 (Herpesvirus 7 is also implicated)
Reservoir	Human
Vector	None
Vehicle	Droplet, Contact, Respiratory or pharyngeal acquisition
Incubation Period	10d - 15d
Diagnostic Tests	Viral isolation and serologic tests rarely indicated. Nucleic acid amplification has been used
Typical Adult Therapy	Supportive Gancyclovir has been used in unusual and severe cases.
Typical Pediatric Therapy	As for adult
Clinical Hints	- High fever followed by sudden defervescence and fleeting rash - Most patients are below the age of 2 years - Note that only 10% to 20% of Herpesvirus 6 infections are associated with a rash
Synonyms	Dreitagefieber, Exanthem criticum, Exanthem subitum, Herpesvirus 6, HHV-6, Pseudorubella, Roseola, Roseola infantilis, Roseola subitum, Sixth disease, Zahorsky's disease. ICD9: 057.8 ICD10: B08.2

Human Pegivirus infection

Agent	VIRUS - RNA. Flaviviridae, Pegivirus GB virus C (Hepatitis G virus)
Reservoir	Human
Vector	None
Vehicle	Blood, Vertical transmission, Sexual contact suspected
Incubation Period	Unknown
Diagnostic Tests	Serology. Nucleic acid amplification.
Typical Adult Therapy	Supportive. Alpha interferon has been shown to ? transiently eliminate the carrier state
Typical Pediatric Therapy	As for adult
Clinical Hints	- Acute or chronic hepatitis acquired from blood (needles, etc) - Clinically milder than hepatitis C - Most cases limited elevation of hepatic enzyme levels, without jaundice - Viremia has been documented for as long as 10 years
Synonyms	Epatite G, GB virus C, GBV-C, Hepatitis G, Hepatitis GB, HPgV, HPgV-2. ICD9: 070.59 ICD10: B17.8

Hymenolepis diminuta infection

Agent	PARASITE - Platyhelminthes, Cestoda. Cyclophyllidae, Hymenolepididae: <i>Hymenolepis diminuta</i>
Reservoir	Rodent, Various insects
Vector	None
Vehicle	Arthropod ingestion
Incubation Period	2w - 4w
Diagnostic Tests	Identification of ova in stool
Typical Adult Therapy	Praziquantel 25 mg/kg as single dose. OR Niclosamide 2g, then 1g/d X 6d
Typical Pediatric Therapy	Praziquantel 25 mg/kg as single dose. OR Niclosamide 1g, then 0.5g/d X 6d (1.5g, then 1g for weight >34kg)
Clinical Hints	- Nausea, abdominal pain and diarrhea - Eosinophilia may be present - Primarily a disease of children, in rodent-infested areas - Infestation resolves spontaneously within 2 months
Synonyms	Hymenolepis diminuta, Mathevotaenia, Rat tapeworm. ICD9: 123.6 ICD10: B71.0

Hymenolepis diminuta infection in Gambia

Prevalence surveys

Years	Region	Study Group	%	Notes
2015*	Kiang West Province	food handlers	0.8	0.8% of food handlers in Kiang West Province (2015 publication) ¹

* indicates publication year (not necessarily year of survey)

References

- Trans R Soc Trop Med Hyg 2015 May ;109(5):334-9.

Hymenolepis nana infection

Agent	PARASITE - Platyhelminthes, Cestoda. Cyclophyllidea, Hymenolepididae: <i>Hymenolepis (Rodentolepis) nana</i>
Reservoir	Human, Rodent (hamster)
Vector	None
Vehicle	Food, Water, Fecal-oral
Incubation Period	2w - 4w
Diagnostic Tests	Identification of ova in stool
Typical Adult Therapy	Praziquantel 25 mg/kg once. OR Nitazoxanide 500 mg daily for 3 days OR Niclosamide 2g/d X 1, then 1g/d X 6d
Typical Pediatric Therapy	Praziquantel 25 mg/kg once. OR Nitazoxanide 100 mg (age 1 to 3 years) to 200 mg (age 4 to 11 years) BID X 3d OR Niclosamide 1g/d X 1, then 0.5g/d X 6d (1.5g, then 1g for weight >34kg)
Clinical Hints	- Nausea, abdominal pain, diarrhea, irritability and weight loss - Eosinophilia may be present - Continued infestation maintained by autoinfection (worm reproduces within the intestinal lumen)
Synonyms	Dwarf tapeworm, <i>Hymenolepis nana</i> , <i>Rodentolepis microstoma</i> , <i>Rodentolepis nana</i> , <i>Rodentolepsiasis</i> , <i>Vampirolepis nana</i> . ICD9: 123.6 ICD10: B71.0

Infection of wound, puncture, IV line, etc

Agent	BACTERIUM. <i>Staphylococcus aureus</i> , streptococci, facultative or aerobic gram negative bacilli, anaerobes, et al
Reservoir	Human, Soil, Water, Air (spores), Various animals and plants
Vector	None
Vehicle	Trauma, Water, Medications, Bandages, Autoinoculation
Incubation Period	Variable
Diagnostic Tests	Smear and culture of catheter, material from wound.
Typical Adult Therapy	Drainage, remove catheter, debridement and antibiotics appropriate to infecting species
Typical Pediatric Therapy	As for adult
Clinical Hints	<ul style="list-style-type: none">- Source (ie, venous line, postoperative, marine, animal bite) may suggest species- Onset within 24 hrs = group A <i>Streptococcus</i> or <i>Cl. perfringens</i>- Onset within 2 to 7 days = <i>S. aureus</i>- Onset after more than 7 days = gram negative bacilli- Foul odor = mixed infection or anaerobic bacteria
Synonyms	Intravenous catheter infection, Line infection, Surgical wound infection, Wound infection. ICD9: 686.9,451 ICD10: T79.3,I80.0, Y95

Infectious mononucleosis or EBV infection

Agent	VIRUS - DNA. Herpesviridae. Gammaherpesvirinae, Lymphocryptovirus: Human herpesvirus 4 (Epstein Barr virus)
Reservoir	Human
Vector	None
Vehicle	Saliva, Blood transfusion, Breastfeeding, Respiratory or pharyngeal acquisition
Incubation Period	28d - 42d
Diagnostic Tests	Serology. Nucleic acid amplification.
Typical Adult Therapy	Supportive
Typical Pediatric Therapy	As for adult
Clinical Hints	<ul style="list-style-type: none">- Exudative pharyngitis- Symmetrical cervical lymphadenopathy, splenomegaly and hepatic dysfunction- Atypical lymphocytes and positive serology appear after 10 to 14 days- Acute illness resolves in 2 to 3 weeks, but malaise and weakness may persist for months
Synonyms	EBV, EBV, Epstein-Barr, Febbre ghiandolare, Filatov's disease, Glandular fever, Infectious mononucleosis, Monocytic angina, Mononucleose, Mononucleosi, Mononucleosis - infectious, Mononukleose, Pfeiffer's disease. ICD9: 075 ICD10: B27.0

Influenza

Agent	VIRUS - RNA. Orthomyxoviridae, Orthomyxovirus: Influenza virus
Reservoir	Human, Ferret, Bird, Pig
Vector	None
Vehicle	Droplet, Respiratory or pharyngeal acquisition
Incubation Period	1d - 3d
Diagnostic Tests	Viral culture (respiratory secretions). Serology. Nucleic acid amplification techniques are available.
Typical Adult Therapy	Respiratory precautions. Influenza A or B: Oseltamivir 75 mg PO BID X 5d OR Zanamavir 10 mg BID X 5 days
Typical Pediatric Therapy	Respiratory precautions. Influenza A or B: Oseltamivir 2 mg/kg (max 75 mg) PO BID X 5d OR Zanamavir (age > 5 years) 10 mg BID X 5 days
Vaccines	Influenza - inactivated vaccine Influenza - live vaccine
Clinical Hints	- Myalgia, headache, cough and fever - Pharyngitis and conjunctivitis often present - Usually encountered in the setting of an outbreak - Leucocytosis, chest pain and lobar infiltrate herald bacterial (pneumococcal or staphylococcal) pneumonia
Synonyms	Asian flu, Aviaire influenza, Avian flu, Avian influenza, Bird flu, Epidemic catarrh, Grippe, H10N8, H1N1, H2N2, H3N2, H5N1, H7N9, Hong Kong flu, LPAI, Spanish influenza, Swine flu, Swine influenza. ICD9: 487 ICD10: J09,J10,J11

Intestinal spirochetosis

Agent	BACTERIUM. <i>Brachyspira pilosicoli</i> and <i>B. aalborgi</i> Anaerobic gram-negative spirochetes
Reservoir	Human, Fowl, Pig
Vector	None
Vehicle	Endogenous
Incubation Period	Unknown
Diagnostic Tests	Spirochetes resemble "brush border" on bowel biopsy; identification of Brachyspira by PCR
Typical Adult Therapy	Metronidazole appears to be effective in some cases.
Typical Pediatric Therapy	As for adult.
Clinical Hints	- Chronic diarrhea and abdominal pain in the absence of other identifiable etiology
Synonyms	Human intestinal spirochetosis. ICD9: 009.1 ICD10: A04.8

Intra-abdominal abscess

Agent	BACTERIUM. Mixed anaerobic / aerobic, staphylococci, <i>Neisseria gonorrhoeae</i> , <i>Chlamydia trachomatis</i> , etc
Reservoir	Human
Vector	None
Vehicle	None
Incubation Period	Variable
Diagnostic Tests	Various imaging techniques (CT, Gallium scan, ultrasound, etc).
Typical Adult Therapy	Percutaneous or open drainage + antibiotics directed at known or suspected pathogen(s)
Typical Pediatric Therapy	As for adult
Clinical Hints	- Fever, chills and localizing pain (e.g., chest pain in subphrenic abscess) - Setting of prior surgery, biliary or colonic disease, appendicitis, vaginal discharge (PID) - FUO, subdiaphragmatic gas or limited diaphragmatic motion may be present
Synonyms	Abscess - Abdominal, Acute appendicitis, Appendicitis, Intraabdominal abscess, Intraperitoneal abscess, P.I.D., Pancreatic abscess, Pelvic abscess, Pelvic inflammatory disease, Pylephlebitis, Subhepatic abscess, Subphrenic abscess, Suppurative pancreatitis, Tuboovarian abscess. ICD9: 614,577.0 ICD10: K35,N73,K75.1,K85

Intracranial venous thrombosis

Agent	BACTERIUM. Oral anaerobes, streptococci, et al
Reservoir	Human
Vector	None
Vehicle	Endogenous
Incubation Period	Variable
Diagnostic Tests	Culture (blood, CSF if indicated). Ophthalmoscopy. Roentgenographic studies of skull & sinuses.
Typical Adult Therapy	Antibiotic(s) directed at known or suspected pathogens
Typical Pediatric Therapy	As for adult
Clinical Hints	- Headache, seizures and fever - Cranial nerve dysfunction may be present - Usually occurs in the setting of ongoing facial, otic or sinus infection
Synonyms	Cavernous sinus thrombosis, Cerebral sinus thrombosis, Cortical vein thrombosis, Internal cerebral vein thrombosis, Straight sinus thrombosis, Superior sinus thrombosis, Transverse sinus thrombosis. ICD9: 325 ICD10: G08

Isosporiasis

Agent	PARASITE - Protozoa. Apicomplexa, Eimeriida: <i>Isospora (Cystoisospora) belli</i>
Reservoir	Human
Vector	None
Vehicle	Food, Liquids, Fecal-oral, Sexual (homosexual) contact
Incubation Period	7d - 10d
Diagnostic Tests	Microscopy of stool or duodenal contents. Advise laboratory when this organism is suspected.
Typical Adult Therapy	Sulfamethoxazole / Trimethoprim 800/160 mg BID X 10 days - Then BID X 3 weeks (may be indefinite in AIDS patient) Increase dosage / duration in immune-suppressed patients Pyrimethamine 50 to 75 mg per day + leucovorin if allergic to sulfa
Typical Pediatric Therapy	Sulfamethoxazole / Trimethoprim 25/5 mg/kg BID X 10 days - Then BID X 3 weeks
Clinical Hints	- Myalgia, watery diarrhea, nausea and leukocytosis - Eosinophilia may be present - Illness is prolonged and severe in AIDS patients
Synonyms	<i>Cystoisospora belli</i> , <i>Isospora belli</i> . ICD9: 007.2 ICD10: A07.3

Kawasaki disease

Agent	UNKNOWN
Reservoir	Unknown
Vector	None
Vehicle	Unknown
Incubation Period	Unknown
Diagnostic Tests	Diagnosis is based on clinical criteria only.
Typical Adult Therapy	Intravenous gamma globulin 2.0 g/kg over 10 to 12h X 1 dose. Plus aspirin 100 mg/kg/day X 14d (or until defervescence) - then 5 to 10 mg/kg/day until normal ESR Infliximab (a chimeric monoclonal antibody) 5 mg/kg has been successful in some studies.
Typical Pediatric Therapy	As for adult
Clinical Hints	- Disease most common among children - Fever, conjunctivitis, stomatitis and an erythematous rash which desquamates - Occasionally complicated by coronary artery occlusion - Case-fatality rates of 1% to 4% are reported
Synonyms	Kawasaki's disease, Mucocutaneous lymph node syndrome. ICD9: 446.1 ICD10: M30.3

Kikuchi's disease and Kimura disease

Agent	UNKNOWN
Reservoir	Unknown
Vector	None
Vehicle	Unknown
Incubation Period	Unknown
Diagnostic Tests	Biopsy.
Typical Adult Therapy	Supportive Hydroxychloroquine and corticosteroids have been successful for Kikuchi's disease in some cases.
Typical Pediatric Therapy	As for adult
Clinical Hints	Most patients of Asian origin Kikuchi disease: - Prolonged (1 to 12 months) cervical lymphadenopathy (rubbery, non-matted - may be tender) - Fever (40%), weight loss, "sweats", leukopenia Kimura disease: - Similar to Kikuchi disease - Salivary gland involvement, glomerulitis, painless subcutaneous masses and eosinophilia suggest Kimura disease - May be misdiagnosed as filariasis
Synonyms	Angiolymphoid hyperplasia, Angiolymphoid hyperplasia-eosinophilia, Eosinophilic follicular lymphadenitis, Histiocytic necrotizing lymphadenitis, Kikuchi's disease, Kikuchi-Fujimoto disease, Kimura disease. ICD9: 289.3 ICD10: I89.8

Kingella infection

Agent	BACTERIUM. <i>Kingella kingae</i> , et al A facultative gram-negative coccobacillus
Reservoir	Human
Vector	None
Vehicle	Endogenous
Incubation Period	Unknown
Diagnostic Tests	Culture of blood, joint fluid, CSF, etc. Alert laboratory if these organisms are suspected.
Typical Adult Therapy	Penicillin G or Penicillin V usually effective - dosage per severity/site
Typical Pediatric Therapy	As for adult
Clinical Hints	- Most cases reported among young children - May present as septic arthritis, endocarditis, meningitis and other localized or systemic infections
Synonyms	

Laryngotracheobronchitis

Agent	VIRUS OR BACTERIUM. Parainfluenza virus, Influenza virus, <i>Mycoplasma</i> , et al
Reservoir	Human
Vector	None
Vehicle	Droplet, Respiratory or pharyngeal acquisition
Incubation Period	3d - 8d
Diagnostic Tests	Viral culture (respiratory secretions). Serology. Nucleic acid amplification.
Typical Adult Therapy	Supportive
Typical Pediatric Therapy	As for adult
Clinical Hints	- Most cases are in young children - Usually encountered in the setting of bronchiolitis, laryngitis or croup following a minor upper respiratory infection
Synonyms	Bronchitis, Croup, Laringitis, Laryngite, Laryngitis, Laryngotracheitis. ICD9: 464,466 ICD10: J04,J05,J20,J21

Lassa fever

Agent	VIRUS - RNA. Arenaviridae, Mammarenavirus: Lassa virus
Reservoir	Multimammate rat (<i>Mastomys natalensis</i>)
Vector	None
Vehicle	Rodent secretions, Contact, Dust, Food, Patient secretions, Respiratory or pharyngeal acquisition
Incubation Period	8d - 14d (range 3d - 21d)
Diagnostic Tests	Viral culture (blood, urine, throat, liver, spleen). Serology. Nucleic acid amplification. Biosafety level 4.
Typical Adult Therapy	Strict isolation. Ribavirin 2g IV Then 1g q6h IV X 4d Then 0.5g IV q8h X 6d
Typical Pediatric Therapy	Strict isolation. Ribavirin 30 mg/kg IV Then 15 mg/kg IV q6h X 4d Then 7.5 mg/kg IV q8h X 6d
Clinical Hints	- Gastrointestinal symptoms, cough, pharyngitis, conjunctivitis and retrosternal pain - Leukopenia, proteinuria and hepatic dysfunction may be present - Case-fatality rates of 15% to 25% are reported
Synonyms	Lassa-Fieber, Luna virus. ICD9: 078.89 ICD10: A96.2

Legionellosis

Agent	BACTERIUM. <i>Legionella pneumophila</i> , et al An aerobic gram-negative bacillus
Reservoir	Water
Vector	None
Vehicle	Water, Aerosols, Droplet, Respiratory or pharyngeal acquisition
Incubation Period	5- 6d (range 2-12d); Pontiac fever = 1-2d
Diagnostic Tests	Serology. Culture. Urine antigen (certain types). Nucleic acid amplification. Alert lab if organism suspected.
Typical Adult Therapy	Fluoroquinolone (Levofloxacin, Trovafloxacin, Pefloxacin, Sparfloxacin or Moxifloxacin). OR Azithromycin. OR Erythromycin + Rifampin OR Clarithromycin
Typical Pediatric Therapy	Azithromycin. OR Erythromycin + Rifampin OR Clarithromycin
Clinical Hints	- Respiratory illness with extrapulmonary manifestations - Diarrhea, confusion, renal or hepatic dysfunction, relative bradycardia, etc. - Most cases reported during summer in temperate areas - Case-fatality rates of 5% to 25% are reported
Synonyms	Doenca dos legionarios, Legionarsjuka, Legionarssjuka, Legionella, Legionellose, Legionellosi, Legionnaire's disease, Pontiac fever. ICD9: 482.84 ICD10: A48.1,A48.2

Leishmaniasis - cutaneous

Agent	PARASITE - Protozoa. Euglenozoa, Kinetoplastea. Flagellate: <i>Leishmania tropica</i> , et al
Reservoir	Human, Hyrax, Rodent, Marsupial, Dog, Sloth, Anteater, Armadillo, Bat
Vector	Sandfly (<i>Phlebotomus</i> for Old-world; <i>Lutzomyia</i> or <i>Psychodopygus</i> for New-world)
Vehicle	None
Incubation Period	2w - 8w (range 1w - months)
Diagnostic Tests	Identification of organism on smear or specialized culture. Nucleic acid amplification
Typical Adult Therapy	Pentavalent antimonials 20 mg/kg/d IV or IM X 21d & / or topical paromomycin . Alternatives: L. major - Fluconazole or Azithromycin , PO L. mexicana or L. panamensis - Ketoconazole , PO L. brasiliensis - Azithromycin , PO
Typical Pediatric Therapy	As for adult
Clinical Hints	- Chronic ulcerating skin nodule - May be painless (<i>Leishmania tropica</i>) or painful (<i>L. major</i>) - Diffuse infection or regional lymphadenopathy are occasionally encountered
Synonyms	Aleppo button, Antep boil, Baghdad boil, Bay sore, Bejuko, Biskra boil, Boessie-Yassi, Bolho, Boschyaws, Bosjaws, Bush yaws, Busi-yasi, Chiclero ulcer, Cutaneous leishmaniasis, Delhi ulcer, Domal, El-Mohtafura, Forest yaws, Gafsa boil, Granuloma endemicum, Hashara, Jericho boil, Kaal Daana, Kandahar sore, Leishmania enriettii, Leishmania major, Leishmania martinicensis, Leishmania tropica, Leishmania waltoni, Leishmaniasis, Leishmaniose: Kutane, Leishmaniosi cutanea, Lepra de montana, Liana, Okhet, One-year boil, Oriental sore, Pendjeh sore, Pian bois, Saldana, Ulcera de Bejuko, Urfa boil, Uta, Yatevi, Year boil. ICD9: 085.1,085.2,085.3,085.4 ICD10: B55.1

Leishmaniasis - cutaneous in Gambia

Cutaneous leishmaniasis is uncommon in Gambia.

Three cases were reported prior to 1980, 1 in 1980 and 6 in 1982. ¹

Phlebotomus duboscqi, a potential vector, has been identified in this country.

References

1. [Trans R Soc Trop Med Hyg 1983 ;77\(2\):143-8.](#)

Leishmaniasis - visceral

Agent	PARASITE - Protozoa. Euglenozoa, Kinetoplastea. Flagellate: <i>Leishmania donovani</i> , <i>L. infantum</i> , <i>L. cruzi</i> ; rarely, <i>L. tropica</i>
Reservoir	Human, Rodent, Dog, Fox, Hares
Vector	Sandfly (<i>Phlebotomus</i> for Old-world; <i>Lutzomyia</i> for New-world)
Vehicle	Blood
Incubation Period	2m - 6m (10d - 12m)
Diagnostic Tests	Smear / culture of bone marrow, splenic aspirate, lymph nodes. Serology. Nucleic acid amplification.
Typical Adult Therapy	Pentavalent antimonials (Stibogluconate) 20 mg/kg/d X 28d. OR Amphotericin B 1 mg/kg/QOD X 8w (or lipid complex 3 mg/kg/d X 5d) OR Paromomycin 11 mg/kg IM QD X 21 days OR Miltefosine 50 to 150 mg PO daily X 4 to 6 weeks.
Typical Pediatric Therapy	Pentavalent antimonials (Stibogluconate) 20 mg/kg/d X 28d. OR Amphotericin B 1 mg/kg/QOD X 8w (or lipid complex 3 mg/kg/d X 5d) OR Paromomycin 11 mg/kg IM QD X 21 days OR Miltefosine 2.5 mg/kg daily (maximum 150 mg) X 28d
Clinical Hints	- Chronic fever, weight loss, diaphoresis - Hepatosplenomegaly, lymphadenopathy and pancytopenia - Grey pigmentation (Kala Azar = "black disease") may appear late in severe illness - Case-fatality rates vary from 5% (treated) to 90% (untreated)
Synonyms	Burdwan fever, Cachectic fever, Dum Dum fever, Kala azar, Leishmania donovani, Leishmania infantum, Leishmania siamensis, Leishmania tarentolae, Leishmaniose: Viszeral, Leishmaniosi viscerale, Ponos, Visceral leishmaniasis. ICD9: 085.0 ICD10: B55.0

Leishmaniasis - visceral in Gambia

Only three cases of visceral leishmaniasis were reported in Gambia during 1949 to 1982. ¹

1980 - Two cases of visceral leishmaniasis were reported. A local dog was also found to be infected. ²

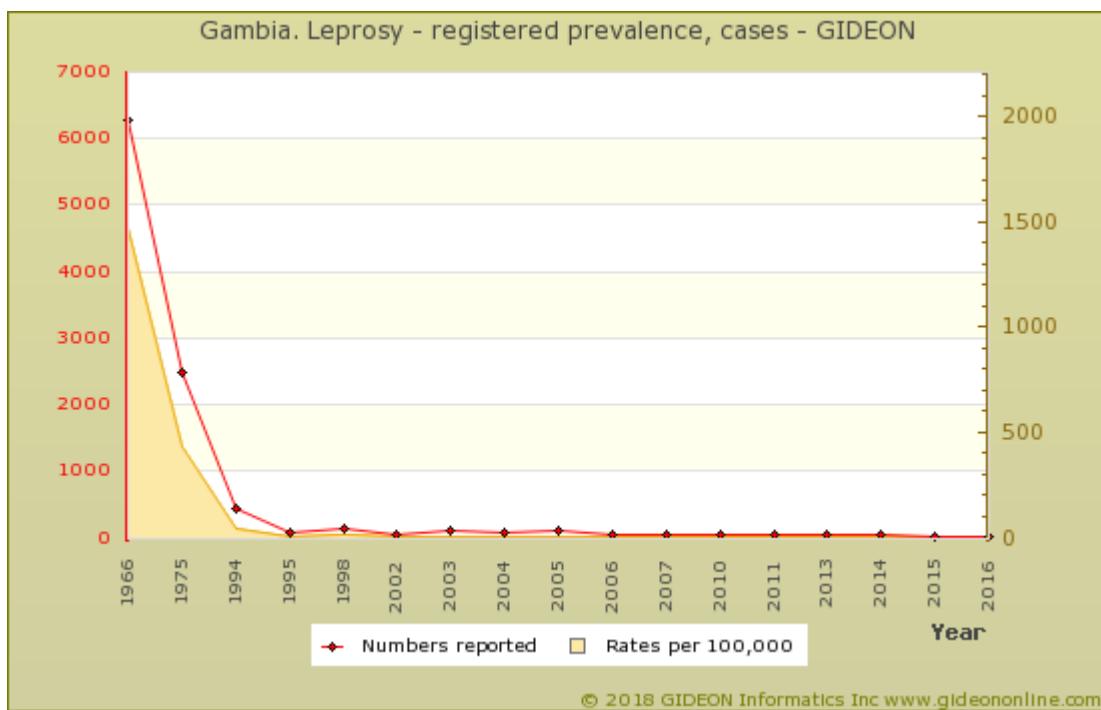
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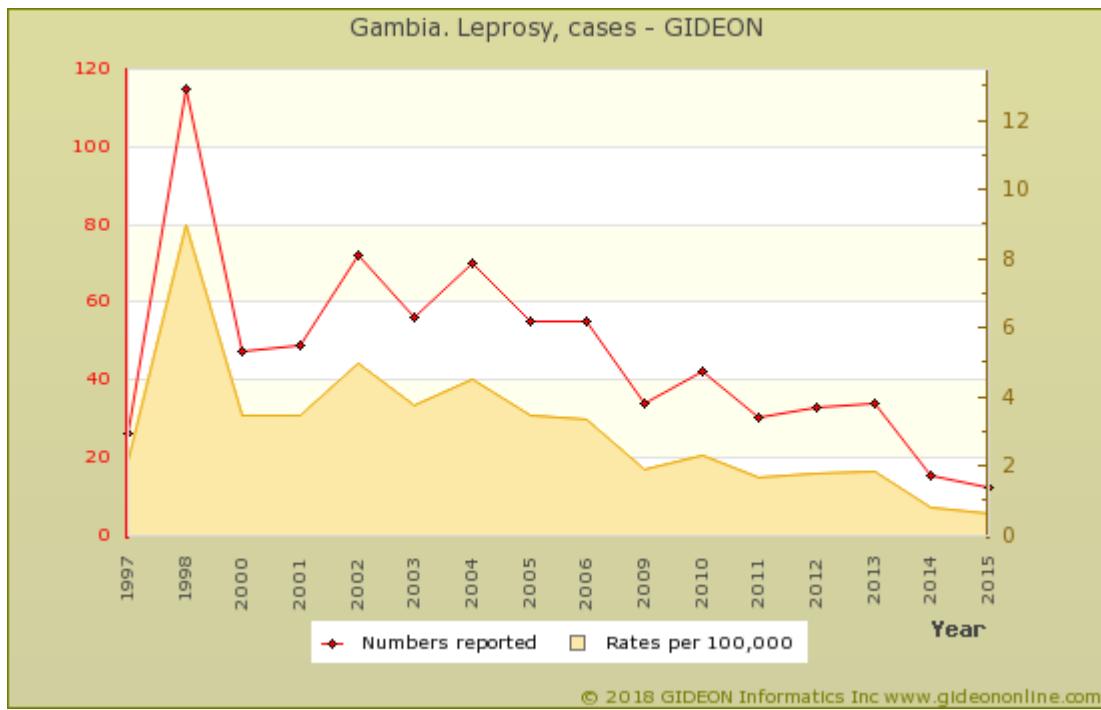
Leprosy

Agent	BACTERIUM. <i>Mycobacterium leprae</i> <i>Mycobacterium lepromatosis</i> An acid-fast bacillus
Reservoir	Human, Armadillo, Squirrel
Vector	None
Vehicle	Secretions
Incubation Period	3y - 5y (range 3m - 40y)
Diagnostic Tests	Visualization of organisms in exudate, scrapings or biopsy. Nucleic acid amplification.
Typical Adult Therapy	Multibacillary: One year therapy <i>Dapsone</i> 100 mg + <i>Clofazimine</i> 50 mg daily; and, <i>Rifampin</i> 600 mg + <i>Clofazimine</i> 300 mg once monthly Paucibacillary: Six month therapy <i>Dapsone</i> 100 mg daily; and <i>Rifampin</i> 600 mg once monthly
Typical Pediatric Therapy	Multibacillary: One year therapy <i>Dapsone</i> 1 to 2 mg/kg + <i>Clofazimine</i> 1 mg/kg daily; and, <i>Rifampin</i> 10 mg/kg + <i>Clofazimine</i> 1 mg/kg once monthly Paucibacillary: Six month therapy <i>Dapsone</i> 1 to 2 mg/kg daily; and <i>Rifampin</i> 10 mg/kg once monthly
Clinical Hints	- Anesthetic, circinate hypopigmented skin lesions - Thickened peripheral nerves (tuberculoid leprosy) - Diffuse, destructive papulonodular infection (lepromatous leprosy) - Combined/intermediate forms are encountered
Synonyms	Aussatz, Doence de Hansen, Hansen's disease, Lebbra, Lepra, <i>Mycobacterium leprae</i> , <i>Mycobacterium lepromatosis</i> . ICD9: 030 ICD10: A30

Leprosy in Gambia



Graph: Gambia. Leprosy - registered prevalence, cases



Graph: Gambia. Leprosy, cases

MDT coverage is 100% (1998).

Leptospirosis

Agent	BACTERIUM. <i>Leptospira interrogans</i> , et al. An aerobic non-gram staining spirochete
Reservoir	Cattle, Dog, Horse, Deer, Rodent, Fox, Marine mammal, Cat, Marsupial, Frog
Vector	None
Vehicle	Water, Soil, Urine contact, Breastfeeding
Incubation Period	7d - 12d (range 2d - 26d)
Diagnostic Tests	Culture on specialized media. Dark field microscopy of urine, CSF. Serology.
Typical Adult Therapy	Penicillin 1.5 million units Q6h iv OR Doxycycline 100 mg BID X 5 to 7d OR Ceftriaxone 1g IV daily
Typical Pediatric Therapy	Penicillin G 50,000u/kg q6h iv X 5 to 7d Age >= 8y: Doxycycline 2.2 mg/kg BID X 5 to 7d may also be used
Clinical Hints	- Often follows recent skin contact with fresh water in rural or rodent-infested areas - "Sterile" meningitis, nephritis, hepatitis, myositis and conjunctivitis - Case-fatality rates of 5% to 40% are reported
Synonyms	Andaman hemorrhagic fever, Canefield fever, Canicola fever, Field fever, Fish handler's disease, Fort Bragg fever, Japanese autumnal fever, <i>Leptospira</i> , Leptospirose, Leptospirosen, Leptospirosi, Mud fever, Pre-tibial fever, Rat fever, Rice field fever, Swamp fever, Swineherd disease, Weil's disease. ICD9: 100 ICD10: A27

Leptospirosis in Gambia

No cases were reported in 1997.

Listeriosis

Agent	BACTERIUM. <i>Listeria monocytogenes</i> A facultative gram-positive bacillus
Reservoir	Mammal, Human, Bird, Soil, Water
Vector	None
Vehicle	Transplacental, Dairy products (eg, soft cheeses), Infected secretions, Vegetables, Poultry, Water, Fish, Shellfish
Incubation Period	3d - 21d (60d post-ingestion)
Diagnostic Tests	Culture of blood or CSF.
Typical Adult Therapy	Ampicillin 2g IV q6h X 2w (higher dosage in meningitis) + Gentamicin . Sulfamethoxazole / Trimethoprim recommended for Penicillin-allergic patients
Typical Pediatric Therapy	Ampicillin 50 mg/kg IV Q6h X 2w (higher dosage in meningitis). Sulfamethoxazole / Trimethoprim recommended for Penicillin-allergic patients
Clinical Hints	- Meningitis or sepsis, often in immune-suppressed patients (lymphoma, AIDS, etc) - Gastroenteritis - may follow ingestion of "over-the-counter" foods - Neonatal septicemia occasionally encountered
Synonyms	Listeria monocytogenes, Listeriose, Listeriosi. ICD9: 027.0 ICD10: A32

Listeriosis in Gambia

No cases were reported in 1997

Liver abscess - bacterial

Agent	BACTERIUM. Various species from portal (Bacteroides, mixed aerobe-anaerobe) or biliary (<i>Escherichia coli</i> , etc) source
Reservoir	Human
Vector	None
Vehicle	Endogenous
Incubation Period	Variable
Diagnostic Tests	Ultrasound, CT or radionuclide scan. If amoebic abscess suspected, perform Entamoeba serology
Typical Adult Therapy	Intravenous antibiotic(s) directed at likely or suspected pathogens. Percutaneous or open drainage
Typical Pediatric Therapy	As for adult
Clinical Hints	- Tender liver and prolonged fever in a patient - Often associated with diverticulitis, cholecystitis, appendicitis, etc - Clinically similar to amoebic abscess, but often multiple
Synonyms	Ascesso fegato, Bacterial liver abscess, Hepatic abscess - bacterial, Liver abscess. ICD9: 572.0 ICD10: K75.0

Lymphocytic choriomeningitis

Agent	VIRUS - RNA. Arenaviridae, Mammarenavirus: Lymphocytic choriomeningitis virus
Reservoir	House mouse, Guinea pig, Hamster, Monkey
Vector	None
Vehicle	Urine, Saliva, Feces, Food, Dust, Respiratory or pharyngeal acquisition
Incubation Period	8d - 12d (range 6d - 14d)
Diagnostic Tests	Viral culture (blood, throat, CSF). Serology. Nucleic acid amplification. Biosafety level 3.
Typical Adult Therapy	Supportive
Typical Pediatric Therapy	As for adult
Clinical Hints	- Headache, myalgia, meningitis and encephalitis - Photophobia or pharyngitis may be present - Preceding exposure to rodents - Infection resolves within 2 weeks, however convalescence may require an additional 2 months
Synonyms	

Lymphogranuloma venereum

Agent	BACTERIUM. Chlamydiaceae, Chlamydiae , <i>Chlamydia trachomatis</i> , types L1, L2, L3
Reservoir	Human
Vector	None
Vehicle	Sexual contact
Incubation Period	7d - 12d (range 3d - 30d)
Diagnostic Tests	Serology. Culture of pus performed in specialized laboratories.
Typical Adult Therapy	Doxycycline 100 mg PO BID X 3w. OR Erythromycin 500 mg QID X 3w OR Azithromycin 1g po weekly X 3w
Typical Pediatric Therapy	Age < 8 years: Erythromycin 10 mg/kg PO QID X 2 to 4w. Age >= 8 years: Doxycycline 2 mg/kg PO BID X 2 to 4w
Clinical Hints	- Genital nodule or vesicle with large, suppurating regional nodes - Generalized lymphadenopathy or proctitis may be present - Late complications include genital edema, rectal strictures and perianal abscesses
Synonyms	Bubonulus, Durand-Nicolas-Favre disease, Linfogranuloma venereo, Lymphogranuloma inguinale, Lymphopathia venereum, Maladie de Nicolas et Favre, Tropical bubo, Venereal bubo, Venerisk lymfogranulom. ICD9: 099.1 ICD10: A55

Lymphogranuloma venereum in Gambia

Prevalence surveys

Years	Region	Study Group	%	Notes
1987*	Banjul	patients - STD	7	7% of genital ulcer disease treated in STD clinics (1987 publication) 1 2

* indicates publication year (not necessarily year of survey)

References

1. [Genitourin Med 1987 Oct ;63\(5\):312-5.](#)
2. [Bull World Health Organ 1990 ;68\(5\):639-54.](#)

Malaria

Agent	PARASITE - Protozoa. Apicomplexa, Haemosporida: <i>Plasmodium</i> spp.
Reservoir	Human Primate (<i>Plasmodium knowlesi</i>)
Vector	Mosquito (Anopheles)
Vehicle	Blood
Incubation Period	7d -30d
Diagnostic Tests	Examination of blood smear. Serology, antigen & microscopic techniques. Nucleic acid amplification.
Typical Adult Therapy	Resistant falcip: Lumefantrine / Artemether OR Quinine + Doxycycline or Clindamycin OR Atovaquone / Proguanil OR Artesunate IV (severe malaria) If sens., Chloroquine 1g, then 500 mg 6, 24 & 48 hrs. If P. ovale or P. vivax - follow with Primaquine
Typical Pediatric Therapy	Resistant falcip: Lumefantrine / Artemether OR Quinine + Clindamycin OR Atovaquone / Proguanil OR Artesunate (>age 8) IV (severe malaria) If sens, Chloroquine 10 mg/kg, then 5 mg/kg 6, 24, & 48 hrs. If P. ovale or P. vivax - follow with Primaquine
Clinical Hints	- Fever, headache, rigors ("shaking chills"), vomiting, myalgia, diaphoresis and hemolytic anemia - Fever pattern (every other or every third day) and splenomegaly may be present - Clinical disease may relapse after 7 (ovale and vivax) to 40 (<i>malariae</i>) years
Synonyms	Ague, Bilious remittent fever, Chagres fever, Estiautumnal fever, Marsh fever, Marsh fever, Paludism, Paludismo, <i>Plasmodium brasiliense</i> , <i>Plasmodium falciparum</i> , <i>Plasmodium knowlesi</i> , <i>Plasmodium malariae</i> , <i>Plasmodium ovale</i> , <i>Plasmodium simium</i> , <i>Plasmodium vivax</i> . ICD9: 084 ICD10: B50,B51,B52,B53,B54

Chloroquine resistant falciparum malaria endemic to 80 countries. Chloroquine-sensitive malaria endemic to 28 countries.

Malaria in Gambia

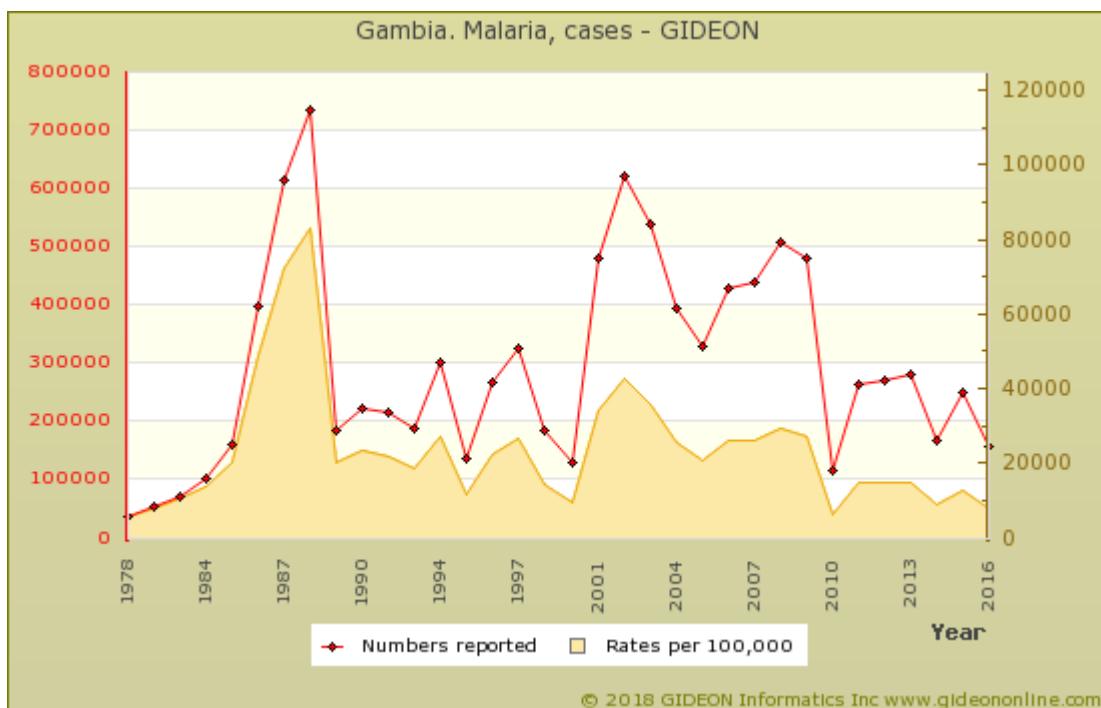
Time and Place

Malaria occurs in all areas of the country.

- Disease risk is essentially limited to the rainy season (rainfall has declined steadily during 1960 to 1993).

Infecting species:

- Plasmodium falciparum* accounts for over 85% of cases.
- Chloroquine-resistant *P. falciparum* **IS** reported. ¹



Graph: Gambia. Malaria, cases

Incidence and prevalence:

- One percent of children less than age 5 years will die of malaria - approximately 1,000 children die of the disease annually.
- During the 1990's, malaria was the second most common cause of death among infants (mortality rate 9.4/1,000 per year) and children (7.4/1,000 per year) in Upper River Division.
 - 137 malaria deaths were officially reported in 2001.
 - The annual number of cases imported into the United Kingdom from Gambia averaged 30 between 1991 to 1998 (range 7 to 56 cases per year), with 43 cases in 1998; 72 in 1999; and 74 during January to November 2000.²



Graph: Gambia. Malaria, deaths

Notes:

1. Figures for 1980, 1990, 2000 and 2010 are based on estimates of true mortality.³ Since these estimates are significantly higher than official Health Ministry reports for other years during this period, resultant graphs will suggest unusual fluctuation in trends.

Prevalence surveys

Years	Region	Study Group	%	Notes
2010*		children	48.4	48.4% of rural children ages 5 months to 10 years, presenting to hospital with fever (2010 publication)
2011		children	1-3.4	3.4% of infants below age 6 months, 1.0% ages 1 to 9 years and 2.7% ages 10 to 15 years (microscopy, 2011) ⁴
2011	Upper River Region	children	13.6	13.6% of school children in Upper River Region (PCR, 2011) ⁵
2014*	Nationwide	children	1.9	1.9% of primary school children, nationwide (2014 publication) ⁶
1998 - 2007	North Bank	deaths	12.9	Malaria accounted for 12.9% of deaths
2008 - 2009	Multiple locations	general population	2.2-12.4	12.4% of village residents during the wet season and 2.2% during the dry season (2008 to 2009) ⁷
2012	Multiple locations	general population	16.01	16.01% of the general population (<i>Plasmodium falciparum</i> , 2012) ⁸
1998 - 2007	Farafenni	patients	12.9	12.9% of deaths in the Farafenni Health and Demographic Surveillance area (1998 to 2007) ⁹
2007 - 2014	Banjul	pregnant women	2.7	Malaria was identified in 2.7% of maternal mortality cases ¹⁰
2017*		pregnant women	7.8-16.8	¹¹

* indicates publication year (not necessarily year of survey)

Seroprevalence surveys

Years	Region	Study Group	%	Notes
1988	Farfenni	children	19	19% of children in Farfenni ages 1 to 5 years, in 1988
2014*	Nationwide	children	12.7	12.7% of primary school children, nationwide (2014 publication) ¹²
2011	Farafenni	general population	1	1% in 2011 ¹³

* indicates publication year (not necessarily year of survey)

Vectors:

16 *Anopheles* species have been identified in Gambia.

- The principal vectors are *Anopheles arabiensis*, *An. gambiae*,^{14 15 16}, *An. melas* (in the west), *An. funestus* and *An. pharoensis*.
- Additional vectors include *An. coustani*, *An. flavicosta* and *An. brohieri*.
- *An. melas* is the dominant species (81.5%) in the flooded areas of the Gambia River, followed by *An. gambiae sensu stricto* (18.0%) and *An. arabiensis* (Patton) (0.5%).¹⁷

Notable outbreaks

Years	Cases	Deaths	Pathogen	Notes
2008	56	1	<i>P. falciparum</i>	Outbreaks of malaria acquired in Gambia were reported among tourists from Denmark (8 cases, 1 fatal), the Netherlands (10 cases), United Kingdom (19 cases), Norway (3 cases), Spain (2 cases), Germany (2 cases) and Finland (8 cases) ^{18 19 20 21 22 23}

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13. [Malar J 2015 Oct 22;14:416.](#)
14. [Med Vet Entomol 1996 Oct ;10\(4\):385-91.](#)
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17. [Bull Entomol Res 2003 Aug ;93\(4\):279-87.](#)
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21. [ProMED <promedmail.org> archive: 20081128.3752](#)
22. [ProMED <promedmail.org> archive: 20081201.3775](#)
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Malignant otitis externa

Agent	BACTERIUM. <i>Pseudomonas aeruginosa</i> : aerobic gram-negative bacillus (virtually all cases)
Reservoir	Human
Vector	None
Vehicle	Endogenous
Incubation Period	Variable
Diagnostic Tests	Culture of otic exudate and biopsy material. Careful roentgenographic and neurological examinations.
Typical Adult Therapy	Early debridement <i>Ciprofloxacin</i> 400 mg iv Q8h Alternatives: <i>Imipenem</i> , <i>Meropenem</i> , <i>Ceftazidime</i> , <i>Cefepime</i> Early debridement
Typical Pediatric Therapy	Early debridement <i>Imipenem</i> : Age 0 to 7 days: 25 mg/kg IV Q12h Age 8 to 28 days: 25 mg/kg IV Q8h Age >28 days: 15 to 25 mg/kg IV Q6h (maximum 2 g/day) Alternatives: <i>Meropenem</i> , <i>Ceftazidime</i> , <i>Cefepime</i>
Clinical Hints	- Over 80% of patients are diabetics above age 50 - Otic pain, swelling and discharge - Infection of bony and cartilaginous ear canal - Cranial nerve (usually VII) signs in 50% - Case-fatality rate > 55%
Synonyms	

Mansonelliasis - M. perstans

Agent	PARASITE - Nematoda. Secernentea: <i>Mansonella (Esslingeria) perstans</i>
Reservoir	Human
Vector	Midge (<i>Culicoides</i> spp.)
Vehicle	None
Incubation Period	5m - 18m (range 1m - 2y)
Diagnostic Tests	Identification of microfilariae in blood. Nucleic acid amplification.
Typical Adult Therapy	Albendazole 400 mg PO BID X 10 d OR Mebendazole 100 mg PO BID X 30 d. Recent data suggest that addition of doxycycline may be of benefit.
Typical Pediatric Therapy	Age >2 years: As for adult. OR Albendazole 10 mg/kg/day PO X 10d
Clinical Hints	- Recurrent pruritic subcutaneous lesions - Arthralgia and eosinophilia - Headache, fever or abdominal pain may also be present
Synonyms	Acanthocheilonema perstans, Bung eye disease, Dipetalonema berghei, Dipetalonema perstans, Dipetalonema semiclarum, Esslingeria perstans, Filaria perstans, Mansonella perstans, Mansonella rhodhaini, Mansonella semiclarum, Mansonella sp. DEUX, Meningonema peruzzii, Tetrapetalonema berghei, Tetrapetalonema perstans. ICD9: 125.4 ICD10: B74.4

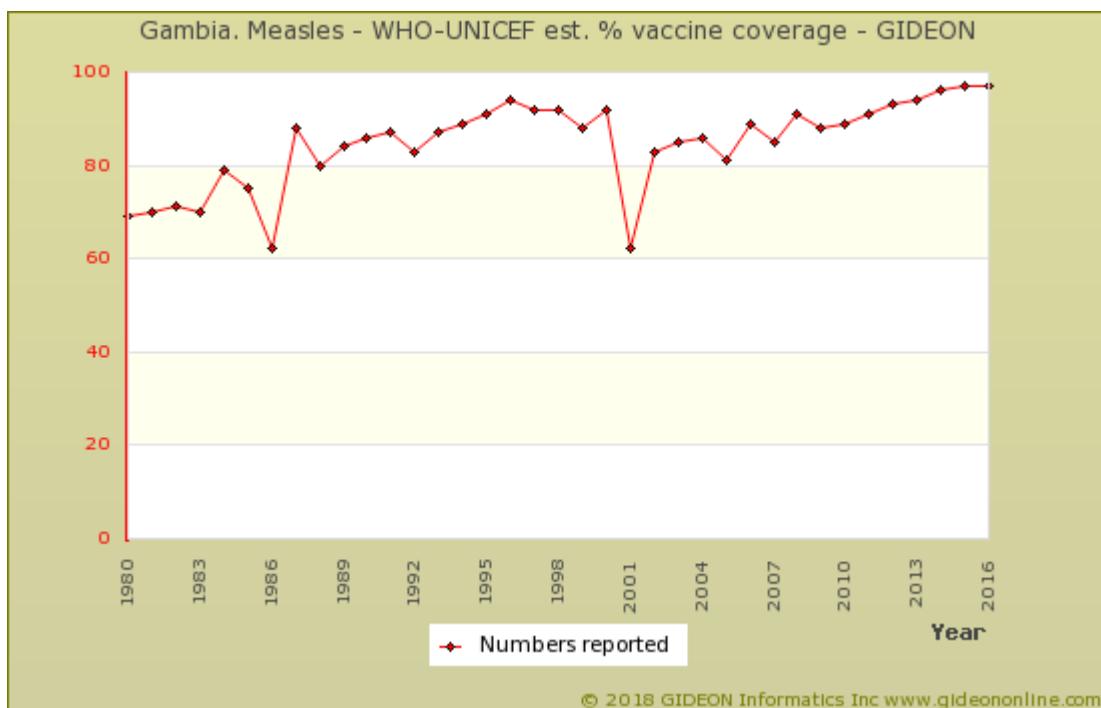
Measles

Agent	VIRUS - RNA. Mononegavirales Paramyxoviridae, Paramyxovirinae, Morbillivirus: Measles virus
Reservoir	Human
Vector	None
Vehicle	Droplet, Respiratory or pharyngeal acquisition
Incubation Period	8d - 14d
Diagnostic Tests	Viral culture (difficult and rarely indicated). Serology. Nucleic acid amplification.
Typical Adult Therapy	Respiratory isolation; supportive. Ribavirin 20 to 35 mg/kg/day X 7 days has been used for severe adult infection
Typical Pediatric Therapy	As for adult
Vaccines	Measles vaccine Measles-Mumps-Rubella vaccine Measles-Rubella vaccine
Clinical Hints	- Coryza, fever, headache, conjunctivitis, photophobia and a maculopapular rash after 3 to 5 days - Koplik's spots (bluish-grey lesions on buccal mucosa, opposite second molars) often precede rash - Encephalitis or viral pneumonia occasionally encountered
Synonyms	Masern, Massling, Mazelen, Meslinger, Morbilli, Morbillo, Rubeola, Rugeole, Sarampion, Sarampo. ICD9: 055 ICD10: B05

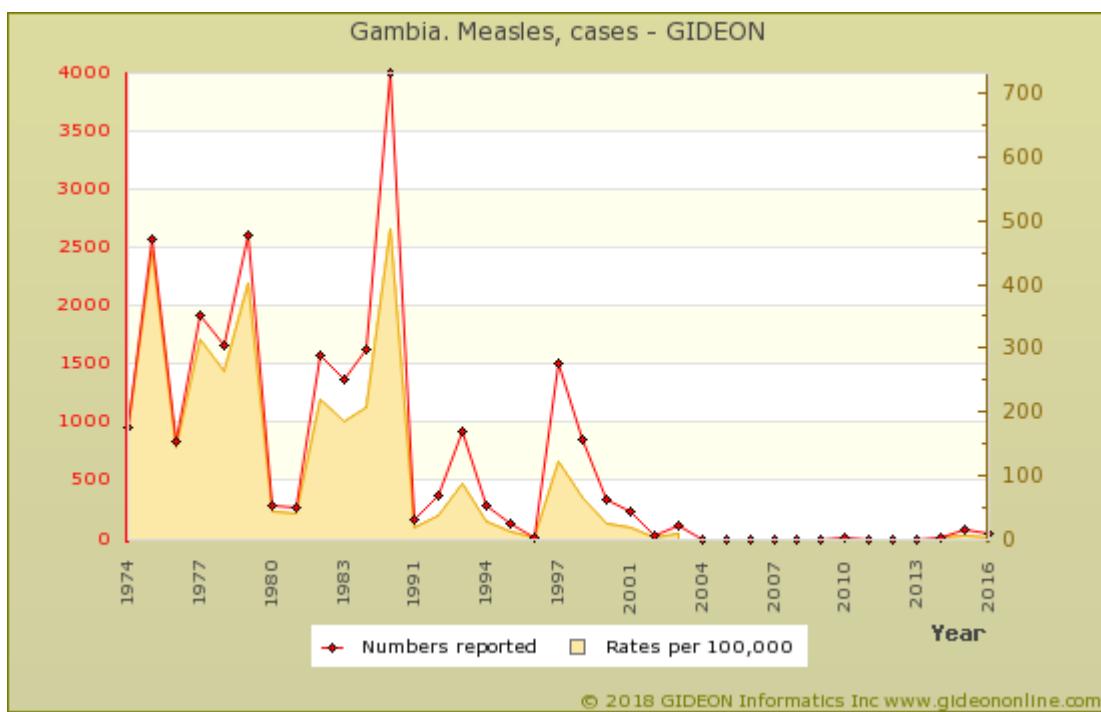
Measles in Gambia

Vaccine Schedule:

BCG - birth
 DTwP - 18-24 months; booster
 DTwPHibHepB - 2,3,4 months
 HepB - birth
 HPV - 9-13 years; +6 months
 IPV - 4 months
 Measles - 9,18 months
 OPV - birth 2, 3, 4, 9,18 months
 Pneumo conj - 2,3,4 months
 Rotavirus - 2,3,4 months
 TT - 1st contact; +1, +6 months; +1, +2 year
 YF - 9 months



Graph: Gambia. Measles - WHO-UNICEF est. % vaccine coverage



Graph: Gambia. Measles, cases

Notes:

Individual years:

1976 - True number estimated at 27,000 cases (1,080 fatal).

Notable outbreaks

Years	Region	Setting	Cases	Notes
1984 - 1985	Keneba			1

Years	Region	Setting	Cases	Notes
1988*		village	54	2

* indicates publication year (not necessarily year of outbreak)

References

1. J Infect 1991 May ;22(3):287-92.
2. Rev Infect Dis 1988 Mar-Apr;10(2):457-62.

Melioidosis

Agent	BACTERIUM. <i>Burkholderia pseudomallei</i> An aerobic gram-negative bacillus
Reservoir	Soil, Water, Sheep, Goat, Horse, Pig, Rodent, Monkey, Marsupial
Vector	None
Vehicle	Water (contact, ingestion, aerosol), Breastfeeding, Sexual contact, Respiratory or pharyngeal acquisition
Incubation Period	3d - 21d (range 2d - 1y)
Diagnostic Tests	Culture of blood, sputum, tissue. Serology. Nucleic acid amplification.
Typical Adult Therapy	Ceftazidime or Meropenem or Imipenem IV X at least 14 days May be combined with Sulfamethoxazole / Trimethoprim PO Follow with Sulfamethoxazole / Trimethoprim +/- Doxycycline X at least 3 months.
Typical Pediatric Therapy	Ceftazidime or Meropenem or Imipenem IV X at least 14 days May be combined with Sulfamethoxazole / Trimethoprim PO Follow with Sulfamethoxazole / Trimethoprim X at least 3 months.
Clinical Hints	- Lymphangitis with septicemia - Fever, cough and chest pain - Diarrhea or infection of bone, central nervous system, liver and parotid are occasionally encountered - Chest roentgenogram findings and clinical course may mimic tuberculosis - Case-fatality rate 10% to over 50% (septicemic form)
Synonyms	Burkholderia pseudomallei, Burkholderia thailandensis, Melioidose, Nightcliff Gardeners' Disease, Whitmore disease. ICD9: 025 ICD10: A24.1,A24.2,A24.3,A24.4

Melioidosis in Gambia

Cross-border events

Years	Acquired by **	Originated in**	Setting	Cases	Notes
1985	Gambia	Sierra Leone		1	1
2009	Spain	Gambia	immigrant / expatriate	1	2 3 4 5 6
2015*	Netherlands	Gambia	travel	1	7

* indicates publication year (not necessarily year of event)

** Country or Nationality

References

1. *Emerg Infect Dis* 2013 Jun ;19(6):981-4.
2. *Am J Trop Med Hyg* 2011 Aug ;85(2):282-4.
3. ProMED <promedmail.org> archive: 20110413.1164
4. ProMED <promedmail.org> archive: 20110427.1310
5. ProMED <promedmail.org> archive: 20091024.3662
6. ProMED <promedmail.org> archive: 20091026.3706
7. *Neth J Med* 2015 Jul ;73(6):296-8.

Meningitis - aseptic (viral)

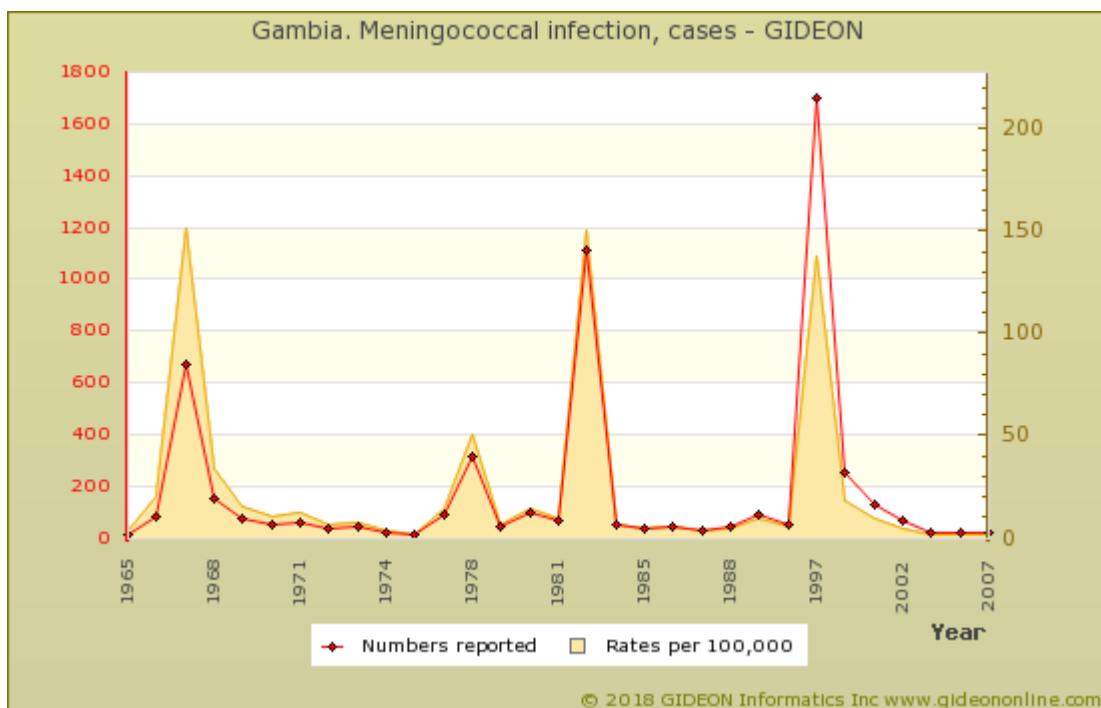
Agent	VIRUS - RNA. Picornaviridae, enteroviruses
Reservoir	Human
Vector	None
Vehicle	Fecal-oral, Droplet
Incubation Period	Variable
Diagnostic Tests	Viral isolation (stool, CSF, throat). Serology.
Typical Adult Therapy	Supportive
Typical Pediatric Therapy	As for adult
Clinical Hints	- Lymphocytic meningitis, with normal CSF glucose level - Often follows sore throat - Typically occurs during late summer and early autumn in temperate regions
Synonyms	Aseptic meningitis, Encephalitis - viral, Meningite virale, Meningitis, viral, Meningo-encefalite virale, Viral encephalitis, Viral meningitis. ICD9: 047,048,049,320.2 ICD10: A87,G03.0

Meningitis - bacterial

Agent	BACTERIUM. <i>Neisseria meningitidis</i> , <i>Streptococcus pneumoniae</i> , <i>Haemophilus influenzae</i> , et al
Reservoir	Human
Vector	None
Vehicle	Air, Secretions
Incubation Period	Variable
Diagnostic Tests	CSF microscopy and culture. Blood culture. Note: Antigen detection is non-specific and rarely useful.
Typical Adult Therapy	Bactericidal agent(s) appropriate to known or suspected pathogen + dexamethasone
Typical Pediatric Therapy	As for adult
Vaccines	<i>H. influenzae</i> (HbOC-DTP or -DTaP) vaccine <i>Haemophilus influenzae</i> (HbOC) vaccine <i>Haemophilus influenzae</i> (PRP-D) vaccine <i>Haemophilus influenzae</i> (PRP-OMP) vaccine <i>Haemophilus influenzae</i> (PRP-T) vaccine Meningococcal vaccine <i>Hepatitis B + Haemoph. influenzae</i> vaccine
Clinical Hints	- Headache, stiff neck, obtundation, high fever and leukocytosis - Macular or petechial rash and preceding sore throat suggest meningococcal infection
Synonyms	Bacterial meningitis, Enfermedad Meningococica, <i>Haemophilus influenzae</i> , <i>Haemophilus influenzaes</i> , HIB meningitis, HIBs, Infections a meningocoque, Meningite batterica, Meningite meningococcica, Meningococcal, Meningokokken Erkr., Meningokokkose. ICD9: 036.0,320 ICD10: A39,G00,G01,G02

Meningitis - bacterial in Gambia

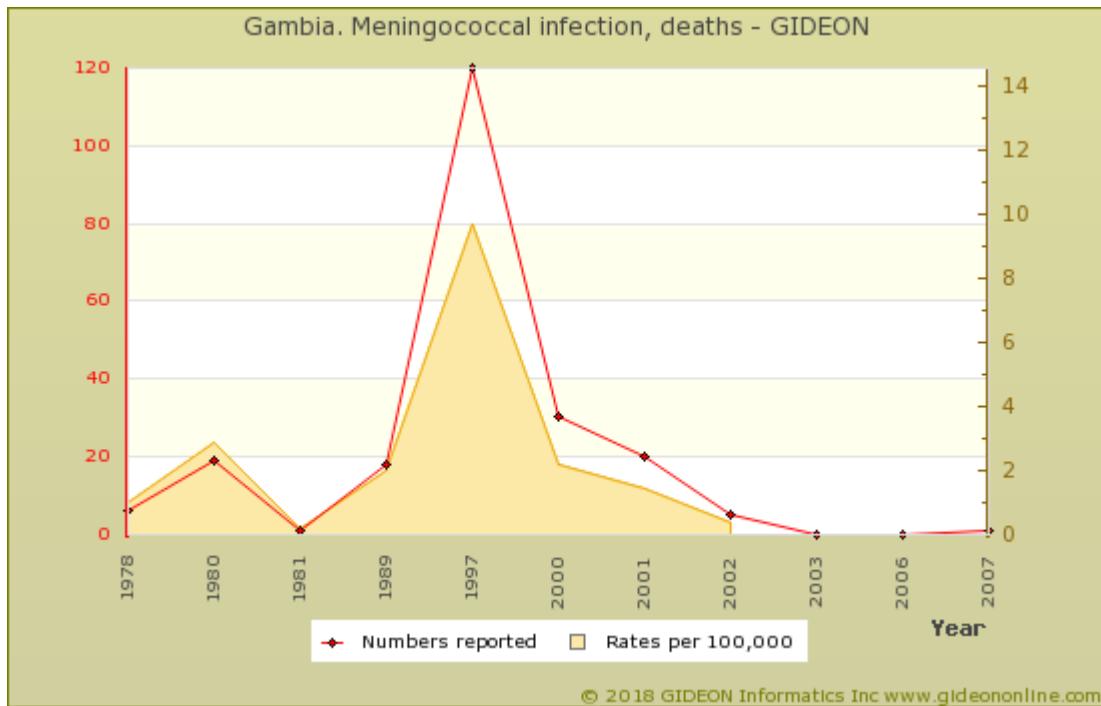
161 cases of meningitis (17 fatal) were reported in 2013 ¹ ; 153 (23 fatal) in 2014 ² ; 22 (2 fatal) in 2016.



Graph: Gambia. Meningococcal infection, cases

Notes:

- Only six cases of group 135 meningococcal infection were reported during 1990 to 1995; 0 during 1996 to 2011. ³
- Individual years:
 - 1996 - High levels of asymptomatic carriage of type W135 were detected. ⁴ The strain had caused several cases of meningitis in 1995. ⁵
 - 1997 - Number of cases approximate.
 - 2001 - Outbreak in the Upper River Division.
 - 2002 - Group A *Neisseria meningitidis* confirmed.

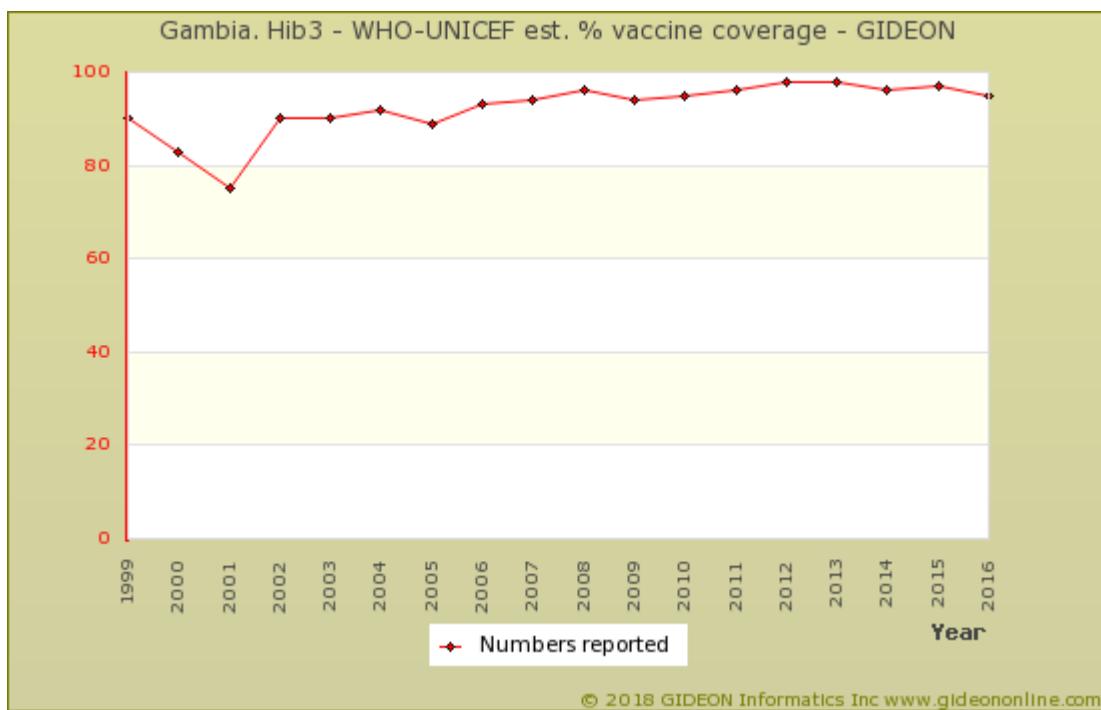


Graph: Gambia. Meningococcal infection, deaths

Vaccine Schedule:

BCG - birth
DTwP - 18-24 months; booster
DTwPHibHepB - 2,3,4 months
HepB - birth
HPV - 9-13 years; +6 months
IPV - 4 months
Measles - 9,18 months
OPV - birth 2, 3, 4, 9,18 months
Pneumo conj - 2,3,4 months
Rotavirus - 2,3,4 months
TT - 1st contact; +1, +6 months; +1, +2 year
YF - 9 months

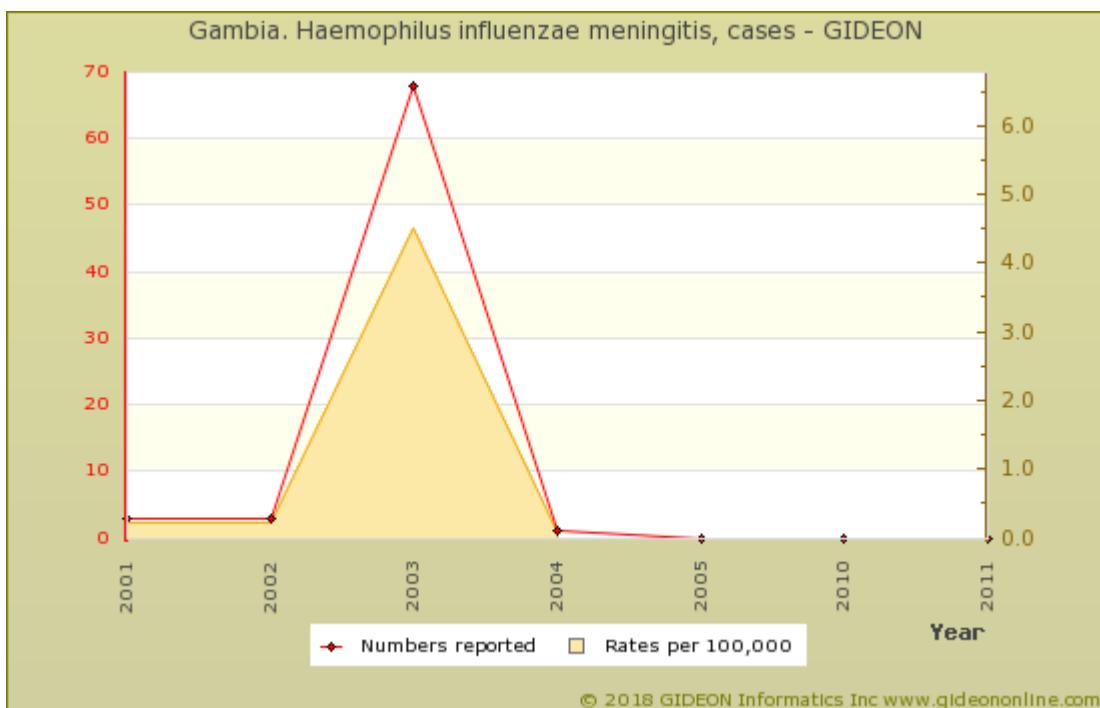
Pilgrims arriving to Saudi Arabia from this country are required to receive chemoprophylaxis with oral ciprofloxacin (injectable ceftriaxone if pregnant). ⁶



Graph: Gambia. Hib3 - WHO-UNICEF est. % vaccine coverage

Notes:

1. Routine immunization against Hib was introduced in 1997. ^{7 8 9}

Graph: Gambia. *Haemophilus influenzae* meningitis, cases

Notes:

- During 1987 to 1991, the rate of *Haemophilus influenzae* b meningitis was 297 per 100,000 children below age 1 year; over 100/1000 during 1990 to 1993; 0 per 100,000 in 2002. Hib carriage decreased from 12% to 0.25% during this period. [10](#)
- 141 cases of invasive Hib disease in children were identified during a three-year period, including 141 with meningitis (1996 publication) [11](#)

Notable outbreaks

Years	Cases	Pathogen	Notes
1982 - 1983		meningococcus group A	12 13 14 15 16
2012	114	meningococcus group W135	17 18

References

- [Wkly Epidemiol Rec 2014 May 16;89\(20\):206-14.](#)
- [Wkly Epidemiol Rec 2015 Mar 27;90\(13\):123-31.](#)
- [Emerg Infect Dis 2013 ;19\(9\):1496-9.](#)
- [Lancet 2000 Sep 23;356\(9235\):1078.](#)
- [Trop Med Int Health 1998 Sep ;3\(9\):742-6.](#)
- [Wkly Epidemiol Rec 2008 Nov 14;83\(46\):413-5.](#)
- [MMWR Morb Mortal Wkly Rep 2008 Feb 15;57\(6\):148-51.](#)
- [Afr Health 1997 Nov ;20\(1\):13, 15.](#)
- [MMWR Morb Mortal Wkly Rep 2013 Oct 04;62\(39\):810-2.](#)
- [Lancet 2005 Jul 9-15;366\(9480\):144-50.](#)
- [Ann Trop Paediatr 1996 Jun ;16\(2\):103-11.](#)
- [J Infect 1987 Mar ;14\(2\):167-84.](#)
- [Trans R Soc Trop Med Hyg 1987 ;81\(4\):536-8.](#)
- [J Infect 1988 Jan ;16\(1\):55-9.](#)
- [J Infect Dis 1991 Aug ;164\(2\):375-82.](#)
- [Antonie Van Leeuwenhoek 1987 ;53\(6\):381-8.](#)
- [Emerg Infect Dis 2013 ;19\(9\):1496-9.](#)
- [Niger J Clin Pract 2015 Jan-Feb;18\(1\):41-7.](#)

Microsporidiosis

Agent	FUNGUS. Microsporidia: Enterocytozoon, <i>Encephalitozoon (Septata)</i> , <i>Vittaforma (Nosema)</i> , <i>Pleistophora</i> , <i>Trachipleistophora</i> , et al.
Reservoir	Rabbit, Rodent, Carnivore, Non-human primate, Fish, Dog, Bird
Vector	None
Vehicle	Fecal-oral
Incubation Period	Unknown
Diagnostic Tests	Microscopy of duodenal aspirates. Inform laboratory if this organism is suspected. Nucleic acid amplification.
Typical Adult Therapy	Albendazole 400 mg PO BID X 3 weeks. Add Fumagillin for ocular <i>S. intestinalis</i> may respond to Albendazole and Fumagillin Nitazoxanide has been used for <i>E. bieneusi</i> .
Typical Pediatric Therapy	Albendazole 200 mg PO BID X 3 weeks. Add Fumagillin for ocular <i>S. intestinalis</i> may respond to Albendazole and Fumagillin Nitazoxanide has been used for <i>E. bieneusi</i> .
Clinical Hints	- Self-limited diarrhea, traveler's diarrhea or asymptomatic carriage - Immunocompromised patients present with chronic diarrhea, cholangitis, cholecystitis, sinusitis or pneumonia - Ocular microsporidiosis is associated with keratoconjunctivitis - Hepatitis or myositis are reported in some cases
Synonyms	Anncaliia, Brachiola, Encephalitozoon, Enterocytozoon, Microsporidium, Nosema, Pleistophora, Trachipleistophora, Tubulinosema, Vittaforma. ICD9: 136.8 ICD10: A07.8

Molluscum contagiosum

Agent	VIRUS - DNA. Poxviridae. Molluscipoxvirus. Molluscum contagiosum virus
Reservoir	Human
Vector	None
Vehicle	Contact, Sexual contact, Vertical transmission
Incubation Period	2-7 w (range 14 to 180d)
Diagnostic Tests	Histology of excised material. Nucleic acid amplification
Typical Adult Therapy	Topical therapy; excision
Typical Pediatric Therapy	As for adult
Clinical Hints	- One or more raised, flesh-colored skin lesions with depressed center - Lesions persist for 6 to 12 weeks - Disseminated and indolent forms encountered, particularly in immune-suppressed patients
Synonyms	Water warts. ICD9: 078.0 ICD10: B08.1

Mumps

Agent	VIRUS - RNA. Mononegavirales Paramyxoviridae, Paramyxovirinae, Rubulavirus: Mumps virus
Reservoir	Human
Vector	None
Vehicle	Aerosol, Respiratory or pharyngeal acquisition
Incubation Period	14d - 24d (range 12d - 24d)
Diagnostic Tests	Viral culture (saliva, urine, CSF) indicated only in complicated cases. Serology. Nucleic acid amplification.
Typical Adult Therapy	Respiratory isolation; supportive
Typical Pediatric Therapy	As for adult
Vaccines	Measles-Mumps-Rubella vaccine Mumps vaccine Rubella - Mumps vaccine
Clinical Hints	- Fever and parotitis - Orchitis (20% of post-pubertal males) - Meningitis (clinically apparent in 1% to 10%) - Oophoritis, or encephalitis (0.1%) - Most cases resolve within 1 to 2 weeks
Synonyms	Bof, Epidemic parotitis, Fiebre urliana, Infectious parotitis, Kusma, Oreillons, Paperas, Parotidite epidemica, Parotiditis, Parotite epidemica, Passjuka. ICD9: 072 ICD10: B26

Mumps in Gambia

Gambia. Mumps, cases: None reported between 2002 and 2016

Myalgic encephalomyelitis

Agent	UNKNOWN
Reservoir	Unknown
Vector	None
Vehicle	Unknown
Incubation Period	Unknown
Diagnostic Tests	Clinical diagnosis; ie, discount other diseases.
Typical Adult Therapy	Supportive; ? immune modulators (experimental)
Typical Pediatric Therapy	As for adult
Clinical Hints	<ul style="list-style-type: none">- Unexplained depression, fatigue, cognitive disorders and sleep disturbance- Recurrent bouts of pharyngitis and adenopathy- Rheumatological symptoms and fever persist more than six months
Synonyms	Akureyri disease, Atypical poliomyelitis, Chronic fatigue syndrome, Effort syndrome, Fabricula, Royal Free disease, Systemic exercise intolerance disease, Tapanui disease. ICD9: 780.71 ICD10: G93.3

Mycetoma

Agent	BACTERIUM OR FUNGUS. <i>Nocardia</i> spp, <i>Madurella mycetomatis</i> , <i>Actinomadura pellitieri</i> , <i>Streptomyces somaliensis</i> , et al
Reservoir	Soil, Vegetation
Vector	None
Vehicle	Contact, Wound, Soil
Incubation Period	2w - 2y
Diagnostic Tests	Bacterial and fungal culture of material from lesion.
Typical Adult Therapy	Antimicrobial or antifungal agent as determined by culture. Excision as indicated
Typical Pediatric Therapy	As for adult
Clinical Hints	- Most patients are males age 20 to 40 (ie, occupational exposure) - Painless, chronic, draining, fistulous subcutaneous nodule - usually involving lower extremity - Osteolytic lesions may be noted on x-ray - Usually no fever
Synonyms	Coelomycetes, Curvularia lunata, Cyphellophora, Diaporthe, Emarella, Fusarium subglutinans, Gloniopsis, Lasiodiplodia, Leptosphaeria tompkinsii, Madura foot, Madura-Fuss, Madurella, Medicopsis, Mycetom, Paraconiothyrium, Peyronellaea, Pleurostomophora, White grain eumycetoma. ICD9: 039.4,117.4 ICD10: B47

Mycobacteriosis - M. marinum

Agent	BACTERIUM. Actinomycetes, <i>Mycobacterium marinum</i> An aerobic acid-fast bacillus
Reservoir	Fresh and salt water (swimming pools, aquaria), Fish (ornamental, salmon, sturgeon, bass)
Vector	None
Vehicle	Water (per areas of minor skin trauma), Contact
Incubation Period	5d - 270d (median 21d)
Diagnostic Tests	Mycobacterial culture from lesion. Alert laboratory when this organism is suspected.
Typical Adult Therapy	Clarithromycin 500 mg BID X 3m Or Rifampicin 600 mg/day + Ethambutol 20 mg/kg/day X 6w. OR Minocycline 100 mg /day X 3m
Typical Pediatric Therapy	Sulfamethoxazole / Trimethoprim 5 mg-25 mg/kg BID X 6w. Alternative Minocycline (Age >= 8)
Clinical Hints	- Onset weeks after exposure to swimming pool, aquarium, other water source - Violaceous papule, ulcer, plaque, psoriaform lesion - Commonly involves the elbow, knee, hand or foot
Synonyms	Aquarium granuloma, Fish fanciers' finger syndrome, Fish tank granuloma, Mariner's TB, <i>Mycobacterium balnei</i> , <i>Mycobacterium marinum</i> , <i>Mycobacterium scrofulaceum</i> , Spam, Swimming pool granuloma. ICD9: 031.1 ICD10: A31.1

Mycobacteriosis - M. scrofulaceum

Agent	BACTERIUM. Actinomycetes, <i>Mycobacterium scrofulaceum</i> An aerobic acid-fast bacillus
Reservoir	Water (lakes, rivers), Soil, Raw milk, Plant material
Vector	None
Vehicle	Water, Soil, Areas of minor trauma, Contact
Incubation Period	Unknown
Diagnostic Tests	Culture of tissue or aspirates.
Typical Adult Therapy	Excision. Drugs (Isoniazid - Rifampin - streptomycin - Cycloserine) are rarely indicated
Typical Pediatric Therapy	As for adult
Clinical Hints	- Most common during early childhood. - Painless lymphadenopathy, most commonly unilateral and submandibular - In contrast, true tuberculosis involves the lower neck and produces a strongly positive tuberculin reaction and/or suggestive chest X ray
Synonyms	

Mycobacteriosis - miscellaneous nontuberculous

Agent	BACTERIUM. Actinomycetes, <i>Mycobacterium</i> spp. - over 130 species as of 2016 An aerobic acid-fast bacillus
Reservoir	Water, Soil, Fish, Mammal, Bird
Vector	None
Vehicle	Air, Water, Milk (<i>M. bovis</i>), Contact, Ingestion, Trauma, Respiratory or pharyngeal acquisition
Incubation Period	Variable
Diagnostic Tests	Microscopy & culture of tissue, secretions, blood. Nucleic acid amplification. Inform laboratory if suspected
Typical Adult Therapy	Drug, route and duration appropriate to clinical setting and species (in Therapy module, scroll through upper left box)
Typical Pediatric Therapy	As for adult
Clinical Hints	- Pneumonia, or chronic granulomatous infection of various tissues - Systemic disease may complicate immune suppression - <i>Mycobacterium avium-intracellulare</i> infection characterized by aggressive course and resistance to most antimycobacterial drugs
Synonyms	Mycobacterium abscessus, Mycobacterium avium, Mycobacterium avium-intracellulare, Mycobacterium chimaera, Mycobacterium franklinii, Mycobacterium immunogenum, Mycobacterium jacussii, Mycobacterium kyorinense, Mycobacterium xenopi, Segniliparus. ICD9: 031.9,031.2 ICD10: A31.0,A31.1,A31.8

Mycoplasma (miscellaneous) infection

Agent	BACTERIUM. Mycoplasmatales <i>Mycoplasma genitalium, Mycoplasma hominis, Mycoplasma fermentans, Mycoplasma penetrans, Mycoplasma parvum, Ureaplasma urealyticum</i>
Reservoir	Human
Vector	None
Vehicle	Secretion, Sexual contact, Respiratory or pharyngeal acquisition
Incubation Period	Unknown
Diagnostic Tests	Culture (urine, pharynx). Serology. Nucleic acid amplification.
Typical Adult Therapy	Doxycycline 100 mg PO BID X 7 days OR Azithromycin 500 g PO, then 250 mg PO X 4 days OR Levofloxacin 500 mg daily X 7 days OR Ofloxacin 300 mg BID X 7 days
Typical Pediatric Therapy	Erythromycin 10 mg/kg PO QID X 2w
Clinical Hints	- Urethritis, vaginitis - Neonatal pneumonia - Rarely stillbirth, prematurity or infertility
Synonyms	Acholeplasma laidlawii, Epiphyrozoon, Hemotrophic Mycoplasma, Mycoplasma amphoriforme, Mycoplasma buccale, Mycoplasma faecium, Mycoplasma felis, Mycoplasma fermentans, Mycoplasma genitalium, Mycoplasma hominis, Mycoplasma lipophilum, Mycoplasma orale, Mycoplasma penetrans, Mycoplasma pirum, Mycoplasma primitum, Mycoplasma salivarium, Mycoplasma spermophilum, T Mycoplasmas, T strains, Ureaplasma parvum, Ureaplasma urealyticum. ICD9: 041.81 ICD10: A49.3

Mycoplasma (miscellaneous) infection in Gambia

Prevalence surveys

Years	Region	Study Group	%	Notes
2005*	Banjul	women	21.4	21.4% of women with vaginal discharge (<i>Mycoplasma hominis</i> , 2005 publication) ¹

* indicates publication year (not necessarily year of survey)

References

1. BMC Infect Dis 2005 Mar 09;5:12.

Mycoplasma pneumoniae infection

Agent	BACTERIUM. Mollicutes. <i>Mycoplasma pneumoniae</i>
Reservoir	Human
Vector	None
Vehicle	Droplet, Respiratory or pharyngeal acquisition
Incubation Period	6d - 23d
Diagnostic Tests	Culture (sputum, throat). Serology. Nucleic acid amplification.
Typical Adult Therapy	Erythromycin 500 mg PO BID X 2w. OR Azithromycin 1 g, followed by 500 mg PO daily X 5 days. OR Doxycycline 100 mg PO BID OR Levofloxacin 750 mg PO X 5d
Typical Pediatric Therapy	Azithromycin 10 mg/kg PO day 1; 5 mg/kg PO days 2 to 5 OR Erythromycin 10 mg/kg PO QID X 2w
Clinical Hints	- Coryza, "hacking" cough and subsegmental pulmonary infiltrate - Bullous otitis media is often present - Most patients below age 30 - Cold agglutinins neither sensitive nor specific, and appear only during second week
Synonyms	Mycoplasma pneumoniae, Primary atypical pneumonia. ICD9: 041.81,483.0 ICD10: B96.0

Mycoplasma pneumoniae infection in Gambia

Prevalence surveys

Years	Region	Study Group	%	Notes
1991*	Banjul	patients	4	4% of children ages 1 to 9 years hospitalized for severe pneumonia (1991 publication) ¹

* indicates publication year (not necessarily year of survey)

References

1. *Pediatr Infect Dis J* 1991 Jan ;10(1):42-7.

Myiasis

Agent	PARASITE - Insecta (Diptera) larvae
Reservoir	Mammal
Vector	Arthropod
Vehicle	Fly eggs deposited by biting arthropod
Incubation Period	1w - 3m
Diagnostic Tests	Identification of extracted maggot.
Typical Adult Therapy	Removal of maggot
Typical Pediatric Therapy	As for adult
Clinical Hints	- Fly larvae seen in various body regions - Pruritic or painful draining nodule - Fever and eosinophilia may be present - Instances of brain, eye, middle ear and other deep infestations are described.
Synonyms	Calliphora, Chrysomya, Chrysomyia, Clogmia, Cochliomyia, Cordylobia, Cuterebrosis, Dermatobia, Eristalis, Fannia, Furuncular myiasis, Gasterophilus, Hypoderma, Lucilia, Lund's fly, Maggot infestation, Megaselia, Musca, Muscina, Oedemagena, Oestrus, Ophthalmomyiasis, Parasarcophaga, Psychoda, Rectal myiasis, Sarcophaga, Screw worm, Telmatoscopus, Telmatoscopus, Urinary myiasis, Vaginal myiasis, Wohlfarthia. ICD9: 134.0 ICD10: B87

Myiasis in Gambia

Several cases of furuncular myiasis due to *Cordylobia anthropophaga* have been reported among travelers returning from Gambia. [1](#) [2](#) [3](#) [4](#) [5](#)

References

1. Pathologe 1993 Jan ;14(1):37-41.
2. Ned Tijdschr Geneesk 2002 Oct 12;146(41):1937.
3. Internist (Berl) 2007 Mar ;48(3):311-3.
4. Neth J Med 2017 Jan ;75(1):42.
5. J Med Case Rep 2017 Nov 03;11(1):310.

Necrotizing skin/soft tissue infx.

Agent	BACTERIUM. <i>Streptococcus pyogenes</i> , <i>Clostridium perfringens</i> , mixed anaerobic and/or gram-negative bacilli
Reservoir	Human
Vector	None
Vehicle	Endogenous
Incubation Period	Variable
Diagnostic Tests	Clinical features. Smear and culture (including anaerobic culture) of exudate.
Typical Adult Therapy	Debridement and parenteral antibiotics directed by smear and culture results. Hyperbaric oxygen in more severe infections
Typical Pediatric Therapy	As for adult
Clinical Hints	- At least seven distinct syndromes are described - Local pain and swelling, skin discoloration or edema - Gas formation, foul odor and variable degrees of systemic toxicity
Synonyms	Anaerobic cellulitis, Chancre oris, Clostridial cellulitis, <i>Clostridium novyi</i> , Fasciitis, Fournier's gangrene, Gangrenous cellulitis, Gangrenous stomatitis, Invasive group A strep. Infections, Meleney's synergistic gangrene, Necrotizing fasciitis, Noma, Streptococcal fasciitis, Synergistic necrotizing cellulitis. ICD9: 686.8,528.1 ICD10: M72.6,A69.0

Neutropenic typhlitis

Agent	BACTERIUM. <i>Clostridium septicum</i> (occasionally <i>Clostridium tertium</i> , <i>Clostridium sporogenes</i> , <i>Clostridium sordellii</i> or <i>Clostridium perfringens</i>)
Reservoir	Human
Vector	None
Vehicle	Endogenous
Incubation Period	Unknown
Diagnostic Tests	Typical findings in the setting of neutropenia. Ultrasonography may be helpful.
Typical Adult Therapy	Broad spectrum antimicrobial coverage, which should include clostridia and <i>Pseudomonas aeruginosa</i> ; ie <i>Piperacillin / Tazobactam</i> (or <i>Imipenem</i> or <i>Meropenem</i>) OR <i>Cefepime + Metronidazole</i> Role of surgery is controversial
Typical Pediatric Therapy	As for adult
Clinical Hints	- Condition affects neutropenic (leukemic, genetic, etc) patients - Fever, abdominal pain, diarrhea (occasionally bloody) and right lower quadrant signs - Infection may spread hematogenously to the extremities - Case-fatality rate is 50% to 75%
Synonyms	Neutropenic enterocolitis. ICD9: 540.0 ICD10: A04.8

Nocardiosis

Agent	BACTERIUM. Actinomycetes, <i>Nocardia</i> spp. An aerobic gram positive bacillus (acid-fast using special technique)
Reservoir	Soil
Vector	None
Vehicle	Air, Dust, Wound, Contact, Respiratory or pharyngeal acquisition
Incubation Period	Days to weeks
Diagnostic Tests	Culture and gram stain of exudates, sputa, tissue specimens. Advise laboratory when <i>Nocardia</i> suspected.
Typical Adult Therapy	Lymphadenitis or skin / soft tissue: Sulfamethoxazole / Trimethoprim OR Minocycline Pneumonia: Sulfamethoxazole / Trimethoprim + Imipenem ; OR Imipenem + Amikacin Brain abscess: Sulfamethoxazole / Trimethoprim + Imipenem ; OR Linezolid + Meropenem
Typical Pediatric Therapy	As for adult
Clinical Hints	- Pneumonia, lung abscess, brain abscess, or other chronic suppurative infection - Often occurs in the setting of immune suppression.
Synonyms	<i>Nocardia</i> , Nocardiose. ICD9: 039 ICD10: A43

Oesophagostomiasis

Agent	PARASITE - Nematoda. <i>Oesophagostomum bifurcum</i> (<i>O. apiostomum</i> , <i>O. stephanostomum</i>)
Reservoir	Non-human primate, Soil
Vector	None
Vehicle	Feces, Water, Soil
Incubation Period	2w - 2m
Diagnostic Tests	Demonstration of parasite in tissue.
Typical Adult Therapy	Albendazole (400 mg as single dose), or Pyrantel pamoate may be effective. Excision as necessary
Typical Pediatric Therapy	Albendazole or Pyrantel pamoate may be effective. Excision as necessary
Clinical Hints	- Right lower quadrant abdominal pain and tenderness - Intraabdominal mass or peritoneal signs are common
Synonyms	Dapaong tumor, Oesophagostomum aculeatum, Oesophagostomum apiostomum, Oesophagostomum bifurcum, Oesophagostomum stephanostomum, Ternidens. ICD9: 127.7 ICD10: B81.8

Onchocerciasis - zoonotic

Agent	PARASITE - Nematoda. Secernentea: <i>Onchocerca lupi</i> , et. al.
Reservoir	Cattle, Horse, Deer, Boar, Dog, Wolf
Vector	Black fly (<i>Simulium</i> spp.)
Vehicle	None
Incubation Period	Unknown
Diagnostic Tests	Ideentification of excised worm
Typical Adult Therapy	Excision
Typical Pediatric Therapy	As of adult
Clinical Hints	- May be history of animal contact - Subcutaneous or subconjunctival nodule, or eye-worm
Synonyms	Dipetalonema arbuta, Dipetalonema splenti, Onchocerca cervicalis, Onchocerca dewittei, Onchocerca guttrosa, Onchocerca jakutensis, Onchocerca lupi, Onchocerca reticulata, Pelecitus. ICD9: 123.8 ICD10: B71.1.

Orbital and eye infection

Agent	BACTERIUM OR FUNGUS. <i>Streptococcus pyogenes</i> , oral anaerobes, <i>Aspergillus</i> spp., facultative gram-negative bacilli, et al
Reservoir	Endogenous, Introduced flora (trauma, surgery)
Vector	None
Vehicle	Trauma, Surgery, Contiguous (sinusitis), Hematogenous
Incubation Period	Variable
Diagnostic Tests	Imaging techniques (CT or MRI). Culture of aspirates or surgical material.
Typical Adult Therapy	Local and systemic antimicrobial agents appropriate for species and severity
Typical Pediatric Therapy	As for adult
Clinical Hints	- Proptosis, chemosis, extraocular palsy, or hypopyon - Associated with sinusitis, bacteremia, eye trauma or surgery - Infection may involve the eye (endophthalmitis); periosteum (periorbital infection); orbit (orbital cellulitis); or multiple structures (panophthalmitis).
Synonyms	Bacterial keratitis, Ceratite, Cheratite, Endophthalmitis, Eye infection, Keratite, Keratitis, Orbital infection, Panophthalmitis, Queratitis. ICD9: 360.0 ICD10: H05.0

Orbital and eye infection in Gambia

Notable outbreaks

Years	Clinical	Pathogen	Notes
2011	acute hemorrhagic conjunctivitis	Coxsackie A24	1

References

1. BMC Res Notes 2017 Dec 06;10(1):692.

Orf

Agent	VIRUS - DNA. Poxviridae, Parapoxvirus: Orf virus
Reservoir	Sheep, Goat, Reindeer, Musk ox
Vector	None
Vehicle	Contact, Secretions, Fomite, Cat-scratch
Incubation Period	3d - 6d (range 2d - 7d)
Diagnostic Tests	Viral culture (skin lesion or exudate). Serology. Nucleic acid amplification. Biosafety level 3.
Typical Adult Therapy	Supportive
Typical Pediatric Therapy	As for adult
Clinical Hints	- Skin pustule or ulcer following contact with sheep or goats - Most lesions are limited to finger or hand - Heals without scarring within 6 weeks
Synonyms	Contagious ecthyma, Contagious pustular dermatitis, Ecthyma contagiosum, Ovine pustular dermatitis, Scabby mouth. ICD9: 078.89 ICD10: B08.0

Ornithosis

Agent	BACTERIUM. Chlamydiaceae, Chlamydiae , <i>Chlamydophila (Chlamydia) psittaci</i>
Reservoir	Parakeet, Parrot, Pigeon, Turkey, Duck, Cat, Sheep, Goat, Cattle, Dog
Vector	None
Vehicle	Bird droppings, Dust, Air, Aerosol from cat, Respiratory or pharyngeal acquisition
Incubation Period	7d - 14d (range 4d - 28d)
Diagnostic Tests	Serology. Culture (available in special laboratories) rarely indicated.
Typical Adult Therapy	Doxycycline 100 mg PO BID X 10d. Alternatives: Azithromycin 1 g, then 0.5 g daily X 4 days. Clarithromycin 0.5 g BID Erythromycin 500 mg PO QID X 10d. Levofloxacin 750 mg PO X 7 days
Typical Pediatric Therapy	Azithromycin 10 mg/kg PO day 1; 5 mg/kg PO days 2 to 5 OR Erythromycin 10 mg/kg QID X 10d Alternative (Age >=8 years): Doxycycline 100 mg PO BID X 10d.
Clinical Hints	- Headache, myalgia and pneumonia - Relative bradycardia is common - Hepatomegaly or splenomegaly common - Onset 1 to 4 weeks following contact with pigeons, psittacine birds or domestic fowl - Case-fatality rate without treatment is 20%
Synonyms	Chlamydophila abortus, Chlamydophila psittaci, Ornitose, Papegojsjuka, Parrot fever, Psitacosis, Psittacosis, Psittakose. ICD9: 073 ICD10: A70

Osteomyelitis

Agent	BACTERIUM OR FUNGUS. <i>Staphylococcus aureus</i> , facultative gram-negative bacilli, <i>Candida albicans</i> , etc
Reservoir	Endogenous
Vector	None
Vehicle	Trauma, Surgery, Hematogenous
Incubation Period	Variable
Diagnostic Tests	Radiography, including bone scan. Culture of biopsy material.
Typical Adult Therapy	Systemic antimicrobial agent(s) appropriate to known or suspected pathogen. Surgery as indicated
Typical Pediatric Therapy	As for adult
Clinical Hints	- Limb pain or gait disturbance, often associated with obscure fever - May be preceded by infection of skin, soft tissues or joint; or result from bacteremia - X-ray changes are not apparent for at least 10 days in acute infection
Synonyms	Osteomielite, Osteomyelitis, Osteomyelite, Paravertebral abscess. ICD9: 015,730.9 ICD10: M86

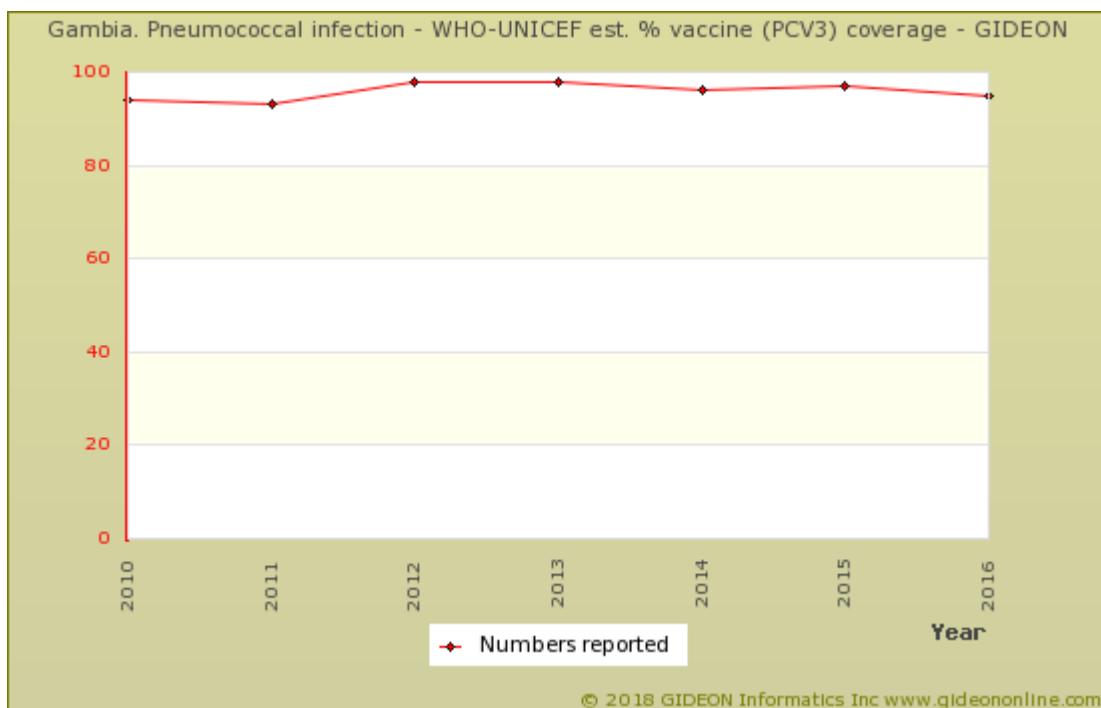
Otitis media

Agent	BACTERIUM OR VIRUS. <i>Haemophilus influenzae</i> & <i>Streptococcus pneumoniae</i> in most acute cases; RSV, Parainfluenza, et al
Reservoir	Human
Vector	None
Vehicle	None
Incubation Period	Variable
Diagnostic Tests	Clinical findings. Culture of middle ear fluid if available.
Typical Adult Therapy	If evidence of bacterial infection (severe otalgia >48 hours / fever >39 C): <i>Amoxicillin / Clavulanate</i> 1000/62.5 mg BID X 3 days Alternatives: <i>Cefdinir</i> , <i>Cepfodoxime proxtil</i> , Cefprozin, fluoroquinolone
Typical Pediatric Therapy	If evidence of bacterial infection (severe otalgia >48 hours / fever >39 C): <i>Amoxicillin / Clavulanate</i> 45/3.2 mg/kg BID X 3 days
Vaccine	Pneumococcal conjugate vaccine
Clinical Hints	- Acute bacterial otitis media often represents the final stage in a complex of anatomic, allergic or viral disorders of the upper airways - Recurrent or resistant infections may require surgical intervention.
Synonyms	Otitis media aguda. ICD9: 382.0 ICD10: H65,H66

Otitis media in Gambia

Vaccine Schedule:

BCG - birth
 DTwP - 18-24 months; booster
 DTwPHibHepB - 2,3,4 months
 HepB - birth
 HPV - 9-13 years; +6 months
 IPV - 4 months
 Measles - 9,18 months
 OPV - birth 2, 3, 4, 9,18 months
 Pneumo conj - 2,3,4 months
 Rotavirus - 2,3,4 months
 TT - 1st contact; +1, +6 months; +1, +2 year
 YF - 9 months



Graph: Gambia. Pneumococcal infection - WHO-UNICEF est. % vaccine (PCV3) coverage

Cost analysis of pneumococcal conjugate vaccine in Gambia - see reference ¹

References

1. Vaccine 2014 Apr 07;32(17):1975-81.

Paragonimiasis

Agent	PARASITE - Platyhelminthes, Trematoda. <i>Paragonimus westermani</i> , <i>P. heterotremus</i> , <i>P. skrjabini</i> , <i>P. miyazakii</i> , <i>P. africanus</i> , et al.
Reservoir	Human, Dog, Cat, Pig, Wild carnivore, Deer, Snail (<i>Semisulcospira</i> , <i>Thiara</i> , etc)
Vector	None
Vehicle	Fresh-water crab (at least 8 species), Crayfish (<i>Cambaroides</i>), raw meat (venison)
Incubation Period	6w - 6m
Diagnostic Tests	Identification of ova in sputum or stool. Serologic and skin tests are available.
Typical Adult Therapy	Praziquantel 25 mg/kg TID X 2d. OR Bithionol 40 mg/kg every other day X 10 doses. OR Triclabendazole 10 mg/kg/d X 2
Typical Pediatric Therapy	As for adult
Clinical Hints	- Pulmonary infection with bloody or "rusty" sputum - Meningitis or seizures - Eosinophilia - Subcutaneous nodules in some cases - Parasite may survive for decades in the human host
Synonyms	Alaria, Endemic hemoptysis, Lung fluke, Oriental lung fluke, Paragonimus, Poikilorchis, Pulmonary distomiasis. ICD9: 121.2 ICD10: B66.4

Paragonimiasis in Gambia

1965 - Two cases of paragonimiasis were reported in Gambia. ¹

2011 - A Gambian child acquired paragonimiasis in Senegal. ²

Prevalence surveys

Years	Region	Study Group	Notes
2011 - 2014	Western Region	patients	0% of patients with tuberculosis-like symptoms in the Western Coastal region. ³

References

1. Ann Afr Med 2008 Dec ;7(4):153-62.
2. BMC Res Notes 2018 Jan 15;11(1):31.
3. BMC Res Notes 2018 Jan 15;11(1):31.

Parainfluenza virus infection

Agent	VIRUS - RNA. Paramyxoviridae: Respirovirus - Human Parainfluenza virus 1 and 3. Rubulavirus - Human Parainfluenza virus 2 and 4.
Reservoir	Human
Vector	None
Vehicle	Droplet, Respiratory or pharyngeal acquisition
Incubation Period	3d - 8d
Diagnostic Tests	Viral culture (respiratory secretions). Serology. Nucleic acid amplification.
Typical Adult Therapy	Supportive
Typical Pediatric Therapy	As for adult
Clinical Hints	- Upper respiratory infection - often croup or laryngitis - Most common during infancy - Older children develop a "cold-like" illness - Complicated by pneumonia in 7% to 17% of cases
Synonyms	Parainfluenza, Sendai. ICD9: 078.89,480.2 ICD10: J12.2

Parvovirus B19 infection

Agent	VIRUS - DNA. Parvoviridae, Parvovirinae: Erythrovirus B19
Reservoir	Human
Vector	None
Vehicle	Droplet, Breastfeeding, Respiratory or pharyngeal acquisition
Incubation Period	4d - 14d (range 3d - 21d)
Diagnostic Tests	Serology. Nucleic acid amplification (testing should be reserved for the rare instance of complicated infection).
Typical Adult Therapy	Supportive
Typical Pediatric Therapy	As for adult
Clinical Hints	- Erythema infectiosum (erythema of cheeks; lacelike or morbilliform rash on extremities) - Febrile polyarthralgia - Bone marrow aplasia/hypoplasia may be present
Synonyms	Duke's disease, Erythema infantum febrile, Erythema infectiosum, Erythema simplex marginatum, Erythrovirus B19, Erythrovirus B19, Fifth disease, Fourth disease, Funfte Krankheit, Parascarlatina, Parvovirus 4, Parvovirus B19, Sticker's disease. ICD9: 057.0 ICD10: B08.3

Pediculosis

Agent	PARASITE - Insecta. Anoplura: <i>Pediculus humanus</i> , <i>Phthirus pubis</i> .
Reservoir	Human
Vector	Louse
Vehicle	Contact
Incubation Period	7d
Diagnostic Tests	Identification of adults and "nits."
Typical Adult Therapy	Permethrin 1%; or malathion 0.5%; or lindane OR Ivermectin 200 mcg/kg PO
Typical Pediatric Therapy	Permethrin 1%; or malathion 0.5%; or lindane OR Ivermectin 200 mcg/kg PO (> 15 kg body weight)
Clinical Hints	- Pruritus in the setting of poor personal hygiene - Adult insects or nits may be visible - Body louse (rarely the head louse) transmits such diseases as epidemic typhus, trench fever and relapsing fever
Synonyms	Crab louse, Lausebefall, Pediculose, <i>Pediculus capitus</i> , <i>Pediculus corporis</i> , Pedikulose, <i>Phthirus pubis</i> , Pidocci. ICD9: 132 ICD10: B85

Pentastomiasis - Armillifer

Agent	PARASITE - Pentastomid worm. <i>Armillifer moniliformis</i> and <i>Porocephalus taiwana</i> in Asia <i>Ar. (Po.) armillatus</i> and <i>A. grandis</i> in Africa
Reservoir	Amphibian, Reptile, Rodent
Vector	None
Vehicle	Snake meat, Water, Vegetation
Incubation Period	Unknown
Diagnostic Tests	Identification of larvae in tissue.
Typical Adult Therapy	Excision as indicated
Typical Pediatric Therapy	As for adult
Clinical Hints	- Intestinal obstruction, pneumonia or jaundice - related to mechanical obstruction by parasite - Crescentic intraabdominal or intrathoracic calcifications on x-ray of chest or abdomen
Synonyms	Armillifer, Porocephalus, Raillietiella. ICD9: 128.8 ICD10: B83.8

Pentastomiasis - Armillifer in Gambia

Two dogs from a snake farm were found to be infested by *Armillifer armillatus*. Their asymptomatic owner was found to be seropositive. ¹

References

1. [Emerg Infect Dis 2011 Feb ;17\(2\):251-4.](#)

Pentastomiasis - Linguatula

Agent	PARASITE - Pentastomid worm. <i>Linguatula serrata</i>
Reservoir	Herbivore
Vector	None
Vehicle	Meat (liver or lymph nodes of sheep/goat)
Incubation Period	Unknown
Diagnostic Tests	Identification of larvae in nasal discharge.
Typical Adult Therapy	No specific therapy available
Typical Pediatric Therapy	As for adult
Clinical Hints	- May follow ingestion of undercooked liver. - Pharyngeal or otic itching - Cough, rhinitis or nasopharyngitis
Synonyms	Linguatula, Marrara syndrome. ICD9: 128.8 ICD10: B83.8

Pericarditis - bacterial

Agent	BACTERIUM. <i>Streptococcus pneumoniae</i> , <i>Staphylococcus aureus</i> , et al
Reservoir	Human
Vector	None
Vehicle	Endogenous
Incubation Period	Variable
Diagnostic Tests	Ultrasonography and cardiac imaging techniques. Culture of pericardial fluid (include mycobacterial culture).
Typical Adult Therapy	Antimicrobial agent(s) appropriate to known or anticipated pathogen. Drainage as indicated
Typical Pediatric Therapy	As for adult
Clinical Hints	- Fever, chest pain and dyspnea - Patients are acutely ill and have overt signs such as venous distention - Enlarged cardiac "shadow" - Concurrent pneumonia or upper respiratory infection may be present - Case-fatality rate is 20%
Synonyms	Bacterial pericarditis, Pericardite. ICD9: 074.23,074.2,115.03,420 ICD10: I30

Perinephric abscess

Agent	BACTERIUM OR FUNGUS. <i>Escherichia coli</i> , other facultative gram negative bacilli, <i>Candida albicans</i> , et al
Reservoir	Human
Vector	None
Vehicle	None
Incubation Period	Variable
Diagnostic Tests	Urine and blood culture. Renal imaging (CT, etc).
Typical Adult Therapy	Antimicrobial agent(s) appropriate to known or anticipated pathogen. Surgery as indicated
Typical Pediatric Therapy	As for adult
Clinical Hints	<ul style="list-style-type: none">- Unexplained fever, leukocytosis and flank pain- Patients are typically over age 50, and often diabetic- Consider in the patient with nonresponsive "pyelonephritis" or a renal mass
Synonyms	

Perirectal abscess

Agent	BACTERIUM. Various (often mixed anaerobic and aerobic flora)
Reservoir	Human
Vector	None
Vehicle	Endogenous
Incubation Period	Variable
Diagnostic Tests	Culture of drainage material.
Typical Adult Therapy	Surgical drainage and antibiotics effective against fecal flora
Typical Pediatric Therapy	As for adult
Clinical Hints	- Anal or perianal pain with fever and a tender mass - Granulocytopenic patients commonly develop small, soft and less overt abscesses - often due to <i>Pseudomonas aeruginosa</i> .
Synonyms	

Peritonitis - bacterial

Agent	BACTERIUM. Various (often mixed anaerobic and aerobic flora)
Reservoir	Human
Vector	None
Vehicle	Endogenous
Incubation Period	Variable
Diagnostic Tests	Culture of blood and peritoneal fluid. Peritoneal fluid cell count may also be useful.
Typical Adult Therapy	Antimicrobial agent(s) appropriate to known or anticipated pathogens. Surgery as indicated
Typical Pediatric Therapy	As for adult
Clinical Hints	- Abdominal pain and tenderness - Vomiting, absent bowel sounds, guarding and rebound - Diarrhea may be present in children - Underlying visceral infection or perforation, trauma, hepatic cirrhosis (spontaneous peritonitis) etc.
Synonyms	Acute peritonitis, Bacterial peritonitis, Peritonite. ICD9: 567 ICD10: K65

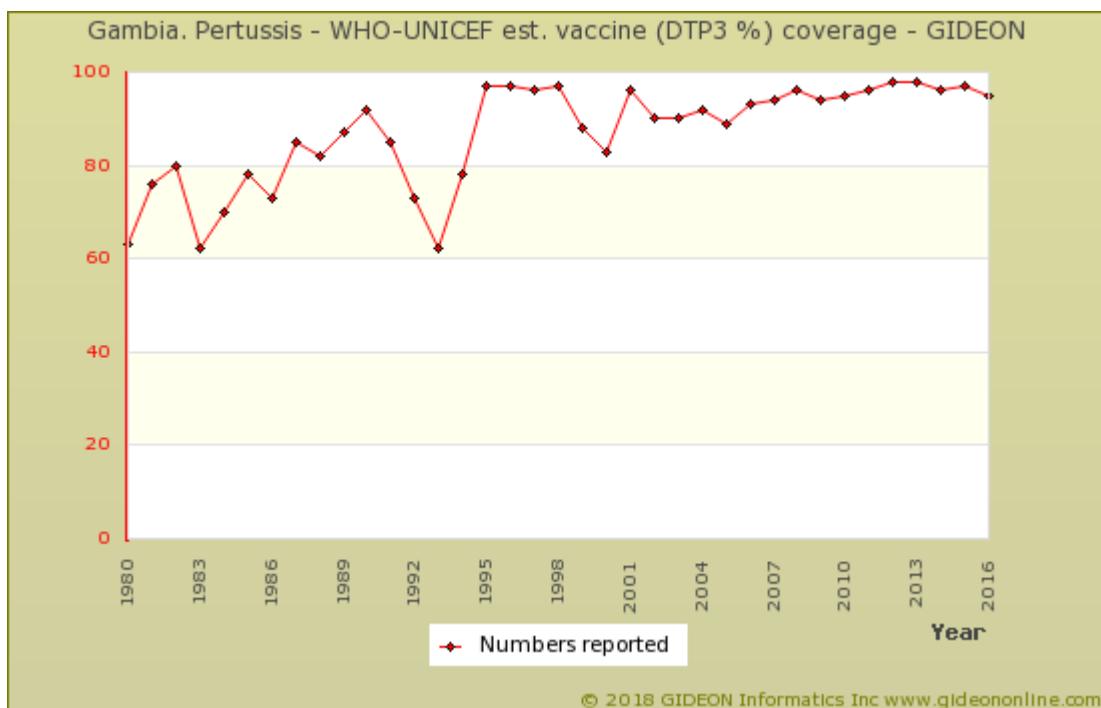
Pertussis

Agent	BACTERIUM. <i>Bordetella pertussis</i> An aerobic gram-negative coccobacillus
Reservoir	Human
Vector	None
Vehicle	Air, Infected secretions, Respiratory or pharyngeal acquisition
Incubation Period	7d - 10d (range 5d - 21d)
Diagnostic Tests	Culture & direct fluorescence (nasopharynx). Alert laboratory when suspected. Serology.
Typical Adult Therapy	Respiratory precautions. <i>Azithromycin</i> 500 mg po X 1, then 250 mg daily X 4 days OR <i>Clarithromycin</i> 500 mg po BID X 7 days OR Sulfamethoxazole / <i>Trimethoprim</i>
Typical Pediatric Therapy	Respiratory precautions: <i>Azithromycin</i> 10mg /kg po daily for 5 days OR <i>Clarithromycin</i> 15/mg/kg BID X 7 days OR Sulfamethoxazole / <i>Trimethoprim</i>
Vaccines	DTaP vaccine DTP vaccine
Clinical Hints	- Coryza, paroxysmal cough - May be associated with pneumonia or otitis - Prominent lymphocytosis - Most often diagnosed in young children, but may present as indolent cough in adults - Epistaxis and subconjunctival hemorrhage often noted - Seizures (below age 2) - Case-fatality rate is 0.5%
Synonyms	<i>Bordetella holmesii</i> , <i>Bordetella parapertussis</i> , <i>Bordetella pertussis</i> , Chincofe, Chyncough, Coqueluche, Keichhusten, Keuchhusten, Kichhosta, Kikhusta, Kikhoste, Kinkhoest, Kinkhost, Kirkhosta, Parapertussis, Pertosse, Syndrome coqueluchoide, Tos convulsa, Tos farina, Tosse convulsa, Tussis convulsa, Whooping cough. ICD9: 033 ICD10: A37

Pertussis in Gambia

Vaccine Schedule:

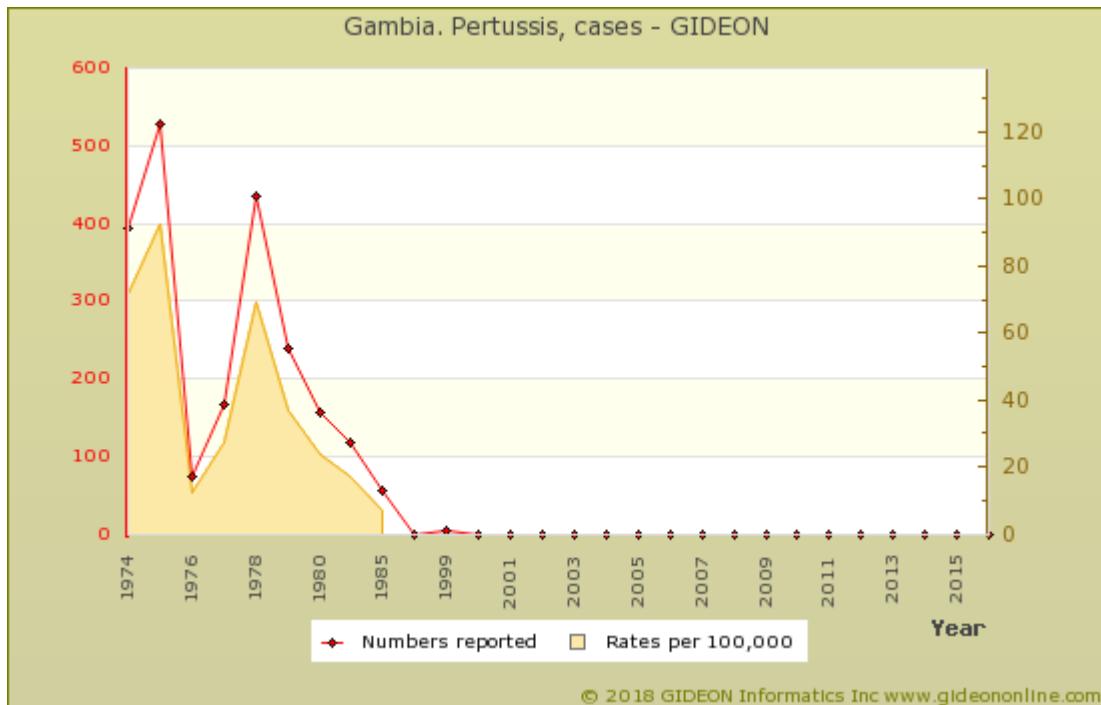
BCG - birth
 DTwP - 18-24 months; booster
 DTwPHibHepB - 2,3,4 months
 HepB - birth
 HPV - 9-13 years; +6 months
 IPV - 4 months
 Measles - 9,18 months
 OPV - birth 2, 3, 4, 9,18 months
 Pneumo conj - 2,3,4 months
 Rotavirus - 2,3,4 months
 TT - 1st contact; +1, +6 months; +1, +2 year
 YF - 9 months



Graph: Gambia. Pertussis - WHO-UNICEF est. vaccine (DTP3 %) coverage

Seroprevalence surveys

Years	Region	Study Group	%	Notes
2008	Kiang West	general population	76.3	76.3% of the rural population (anti-pertussis toxin, 2015 publication) ¹



Graph: Gambia. Pertussis, cases

Notes:

Individual years:

1976 - The true number of cases was estimated at 21,600 (691 fatal).

References

1. [Pediatr Infect Dis J 2015 Apr ;34\(4\):333-8.](#)

Pharyngeal and cervical space infx.

Agent	BACTERIUM. <i>Streptococcus pyogenes</i> , mixed oral anaerobes, etc.
Reservoir	Human
Vector	None
Vehicle	Endogenous
Incubation Period	Variable
Diagnostic Tests	Careful examination of region and X-ray (or CT scan). Smear and culture of pus if available.
Typical Adult Therapy	Surgical drainage and parenteral antibiotics effective against oral flora
Typical Pediatric Therapy	As for adult
Clinical Hints	- Fever, painful swelling and displacement of the tongue, fauces and other intraoral structures - Dysphagia, dyspnea or jugular phlebitis may ensue in more virulent infections
Synonyms	Cervical space infection, Descending necrotizing mediastinitis, Lemmier's syndrome, Ludwig's angina, Post-anginal septicemia, Quinsy. ICD9: 682.0,682.1 ICD10: J36,J39.0,J39.1

Pharyngitis - bacterial

Agent	BACTERIUM. Most often <i>Streptococcus pyogenes</i> ; <i>Streptococcus</i> groups B, C, F and G are occasionally isolated
Reservoir	Human
Vector	None
Vehicle	Droplet, Rarely food, Respiratory or pharyngeal acquisition
Incubation Period	1d - 5d
Diagnostic Tests	Throat swab for culture or antigen detection (group A Streptococcus) ASLO titer may not indicate current infection
Typical Adult Therapy	Penicillin G or Penicillin V or other antistreptococcal antibiotic to maintain serum level for 10 days
Typical Pediatric Therapy	As for adult
Clinical Hints	- Purulent pharyngitis and cervical lymphadenopathy usually indicate streptococcal etiology - Viruses (mononucleosis, Enteroviruses) and other bacteria (gonorrhea, diphtheria) should also be considered
Synonyms	Acute pharyngitis, Bacterial pharyngitis, Mal di gola batterica, Oral thrush, Streptococcal pharyngitis, Tonsillitis - bacterial, Vincent's angina. ICD9: 034.0,462 ICD10: J02,J03

Philophthalmosis

Agent	PARASITE - Platyhelminthes, Trematoda. <i>Philophthalmus gralli</i> , <i>Ph. lucipetus</i> , <i>Ph. lacrimosus</i>
Reservoir	Snail
Vector	None
Vehicle	Aquatic plants
Incubation Period	Unknown Less than 24 hours in birds
Diagnostic Tests	Identification of excised worm
Typical Adult Therapy	Removal of worm
Typical Pediatric Therapy	As for adult
Clinical Hints	- Conjunctivitis and lacrimation - Presence of an adult worm in the conjunctival sac
Synonyms	Oriental avian eye fluke, Oriental eye fluke, Philophthalmus. ICD9: 121.8 ICD10: b66.8

Pityriasis rosea

Agent	UNKNOWN. Human herpesvirus 7 has been implicated
Reservoir	Unknown
Vector	Unknown
Vehicle	Unknown
Incubation Period	Unknown
Diagnostic Tests	Clinical features.
Typical Adult Therapy	Supportive; ultraviolet B exposure is suggested Acyclovir 400 mg PO TID X 7 days has been used in severe cases
Typical Pediatric Therapy	Supportive; ultraviolet B exposure is suggested
Clinical Hints	- Herald patch followed by crops of pruritic, salmon-colored macules and papules - Systemic symptoms are rare - Illness resolves after 3 to 8 weeks
Synonyms	

Plesiomonas infection

Agent	BACTERIUM. <i>Plesiomonas shigelloides</i> A facultative gram-negative bacillus
Reservoir	Fish Animal, Soil, Reptile, Bird
Vector	None
Vehicle	Water, Food
Incubation Period	1d - 2d
Diagnostic Tests	Stool culture - alert laboratory when this organism is suspected. Nucleic acid amplification.
Typical Adult Therapy	Stool precautions. Ciprofloxacin 400 mg IV or 750 mg PO, BID Alternatives: Sulfamethoxazole / Trimethoprim , Amoxicillin / Clavulanate , Ceftriaxone
Typical Pediatric Therapy	Stool precautions. Sulfamethoxazole / Trimethoprim , Amoxicillin / Clavulanate , Ceftriaxone
Clinical Hints	- In many cases, follows ingestion of shellfish or recent travel to developing countries - Fever, abdominal pain, vomiting and severe diarrhea - Symptoms often persist for 2 to 4 weeks
Synonyms	Plesiomonas shigelloides. ICD9: 008.8 ICD10: A04.8

Pleurodynia

Agent	VIRUS - RNA. Picornaviridae: Coxsackievirus
Reservoir	Human
Vector	None
Vehicle	Air, Fecal-oral, Fomite, Respiratory or pharyngeal acquisition
Incubation Period	3d - 5d
Diagnostic Tests	Viral culture (throat, stool). Serology. Nucleic acid amplification.
Typical Adult Therapy	Supportive
Typical Pediatric Therapy	As for adult
Clinical Hints	- A late summer illness in temperate regions - Sore throat followed by pleuritic chest pain - Pain is often recurrent and appears in "waves" - local pressure on affected area may elicit the pain - Usually resolves within one week.
Synonyms	Balme disease, Bamble disease, Bamie disease, Bornholm disease, Devil's grip, Drangedal disease, Epidemic benign dry pleurisy, Epidemic myalgia, Sylvest's disease. ICD9: 074.1 ICD10: B33.0

Pleurodynia in Gambia

Notable outbreaks

Years	Region	Cases	Population	Notes
1956	Fajara	4	expatriates	Outbreak among European expatriates in Gambia ¹

References

- Br Med J 1959 Mar 28;1(5125):834-5.

Pneumocystis pneumonia

Agent	FUNGUS. Ascomycota, Archiascomycetes, Pneumocystidales: <i>Pneumocystis jiroveci</i> (now distinct from <i>Pneumocystis carinii</i>)
Reservoir	Human
Vector	None
Vehicle	Air, Respiratory or pharyngeal acquisition
Incubation Period	4d - 8w
Diagnostic Tests	Identification of organisms in induced sputum, bronchial washings, tissue. Serology. Nucleic acid amplification.
Typical Adult Therapy	Therapy: Sulfamethoxazole / Trimethoprim 25 mg/5 mg/kg QID X 14d. OR Pentamidine 4 mg/kg/d X 14d. OR Dapsone + Trimethoprim . OR Atovaquone OR Primaquine + Clindamycin Prophylaxis - similar, but at altered dosage. Dapsone also used.
Typical Pediatric Therapy	Therapy: Sulfamethoxazole / Trimethoprim 25 mg/5 mg/kg QID X 14d. OR Pentamidine 4 mg/kg/d X 14d. OR Dapsone + Trimethoprim . OR Atovaquone OR Primaquine + Clindamycin Prophylaxis - similar, but at altered dosage.
Clinical Hints	- Dyspnea, hypoxia and interstitial pneumonia - Usually encountered in the setting of severe immune suppression (AIDS, leukemia, etc) - Roentgenographic findings (typically bilateral alveolar pattern) may appear after several days
Synonyms	PCP, <i>Pneumocystis carinii</i> , <i>Pneumocystis jiroveci</i> . ICD9: 136.3 ICD10: B59

Pneumocystis pneumonia in Gambia

Seroprevalence surveys

Years	Study Group	%	Notes
1990*	children	70	Over 70% of children are seropositive toward <i>Pneumocystis</i> by age 8 years (1990 publication) ¹

* indicates publication year (not necessarily year of survey)

References

1. [Trans R Soc Trop Med Hyg 1990 Nov-Dec;84\(6\):800-2.](#)

Pneumonia - bacterial

Agent	BACTERIUM. <i>Streptococcus pneumoniae</i> , <i>Klebsiella pneumoniae</i> ssp <i>pneumoniae</i> , other aerobic and facultative gram negative bacilli, etc.
Reservoir	Human
Vector	None
Vehicle	Droplet, Endogenous, Respiratory or pharyngeal acquisition
Incubation Period	1d - 3d
Diagnostic Tests	Culture of sputum, blood. Analyze ("grade") sputum cytology to assess significance of culture.
Typical Adult Therapy	Antimicrobial agent(s) appropriate to known or suspected pathogen
Typical Pediatric Therapy	As for adult
Vaccine	Pneumococcal vaccine
Clinical Hints	- Rigors, pleuritic pain, hemoptysis, lobar infiltrate and leukocytosis - Empyema and lung abscess suggest etiology other than pneumococcus - Foul sputum with mixed flora may herald anaerobic (aspiration) pneumonia
Synonyms	Bacterial pneumonia, Empiema, Empyeem, Empyem, Empyeme, Empyeme, Lung abscess, Neumonia, Pleurisy, Pneumococcal infection - invasive, Pneumococcal pneumonia, Polmonite batterica, <i>Streptococcus pneumoniae</i> , <i>Streptococcus pneumoniae</i> - invasive. ICD9: 481,482,483,484 ICD10: J13,J14,J15,J17,J18,J85,J86

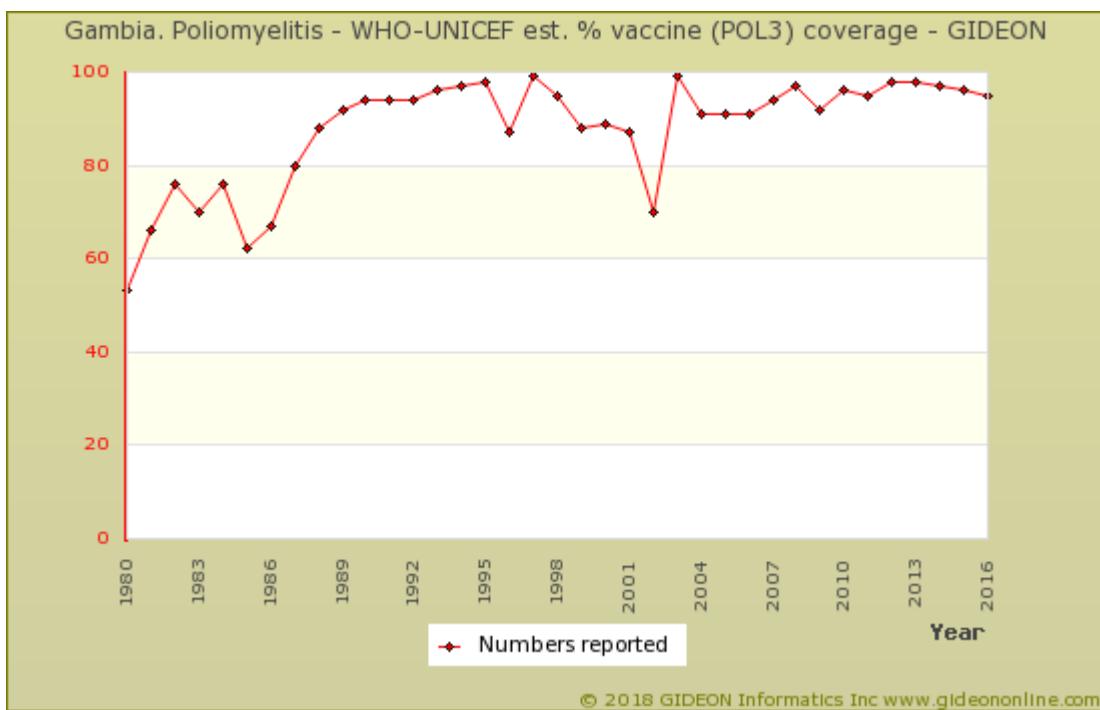
Poliomyelitis and acute flaccid paralysis

Agent	VIRUS - RNA. Picornaviridae, Picornavirus: Polio virus
Reservoir	Human
Vector	None
Vehicle	Fecal-oral, Dairy products, Food, Water, Fly, Respiratory or pharyngeal acquisition
Incubation Period	7d - 14d (range 3d - 35d)
Diagnostic Tests	Viral culture (pharynx, stool). Serology. Nucleic acid amplification.
Typical Adult Therapy	Stool precautions; supportive
Typical Pediatric Therapy	As for adult
Vaccines	Poliomyelitis - injectable vaccine Poliomyelitis - oral vaccine
Clinical Hints	- Sore throat, headache, vomiting and myalgia followed by flaccid paralysis - Meningeal involvement in 1% of cases - Paralysis in only 0.1% of cases - Paralysis tends to be more extensive in adult patients
Synonyms	Acute flaccid paralysis, Heine-Medin disease, Infantile paralysis, Kinderlähmung, Kinderverlamming, Paralisi infantile, Parálisis flácida, Parálisis flacida aguda, PFA (Parálisis Flacidas Agudas), Polio, Poliomielitis, Poliomielitis.
	ICD9: 045 ICD10: A80

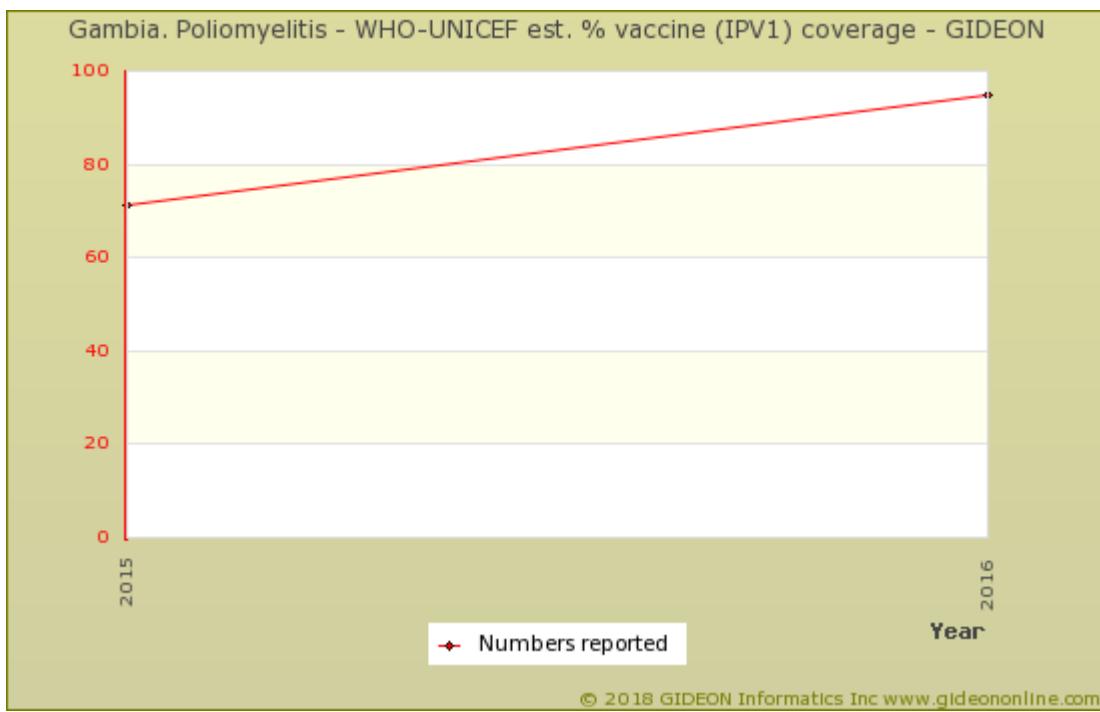
Poliomyelitis and acute flaccid paralysis in Gambia

Vaccine Schedule:

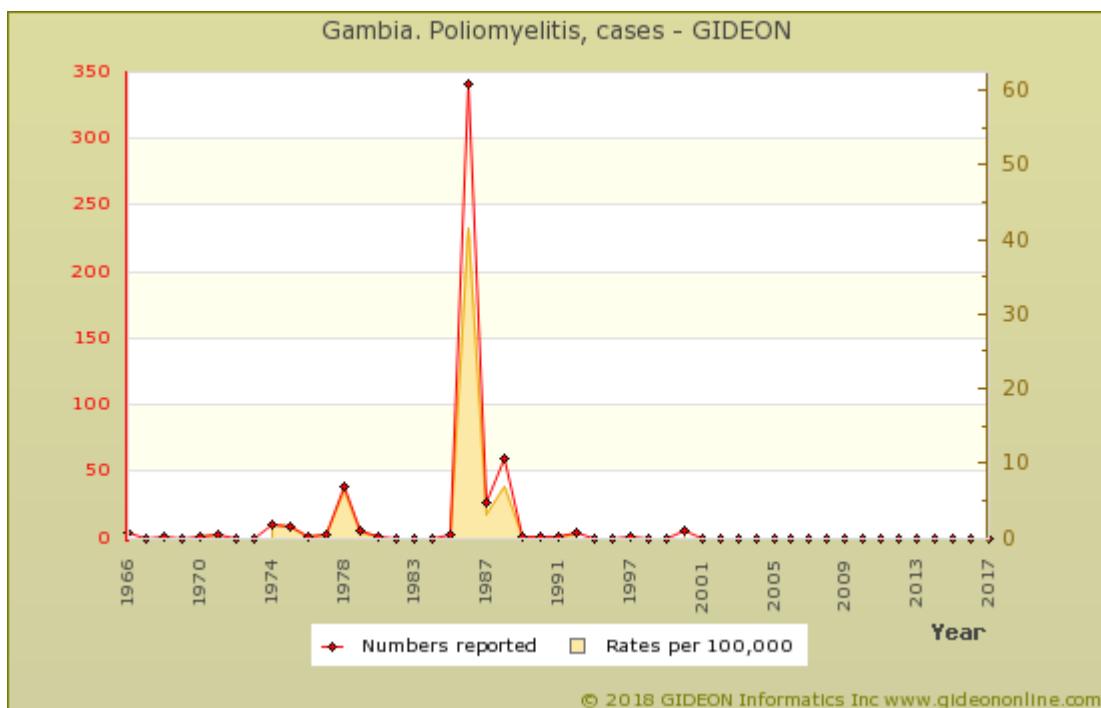
BCG - birth
 DTwP - 18-24 months; booster
 DTwPHibHepB - 2,3,4 months
 HepB - birth
 HPV - 9-13 years; +6 months
 IPV - 4 months
 Measles - 9,18 months
 OPV - birth 2, 3, 4, 9,18 months
 Pneumo conj - 2,3,4 months
 Rotavirus - 2,3,4 months
 TT - 1st contact; +1, +6 months; +1, +2 year
 YF - 9 months



Graph: Gambia. Poliomyelitis - WHO-UNICEF est. % vaccine (POL3) coverage



Graph: Gambia. Poliomyelitis - WHO-UNICEF est. % vaccine (IPV1) coverage



Graph: Gambia. Poliomyelitis, cases

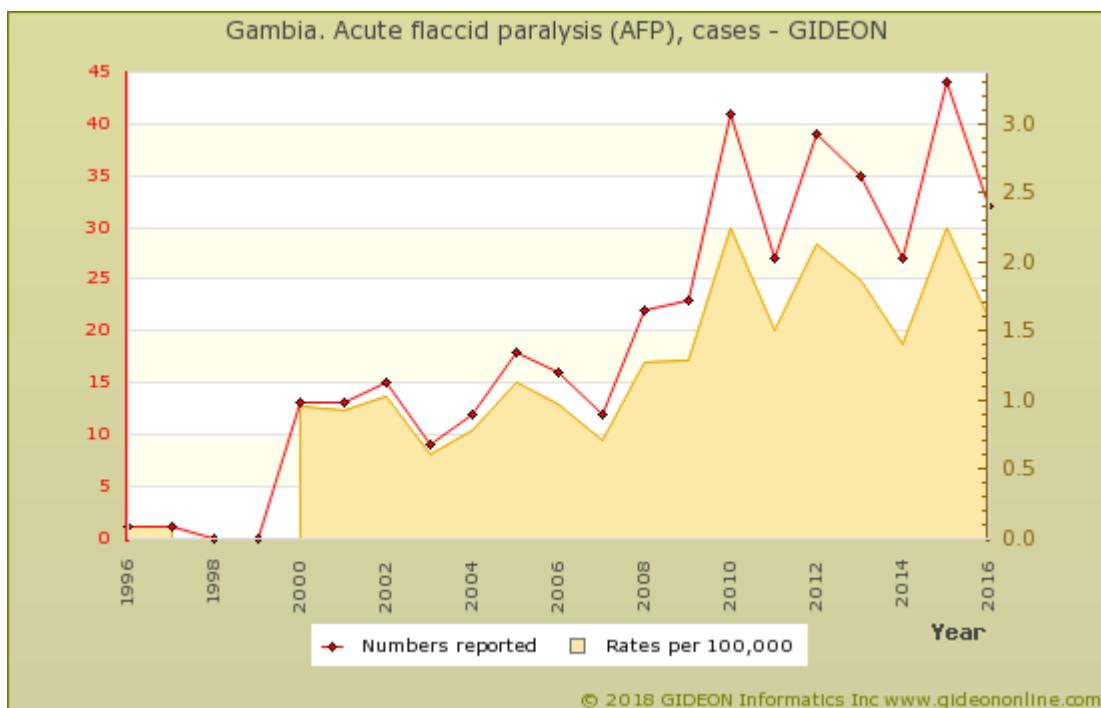
Notes:

Individual years:

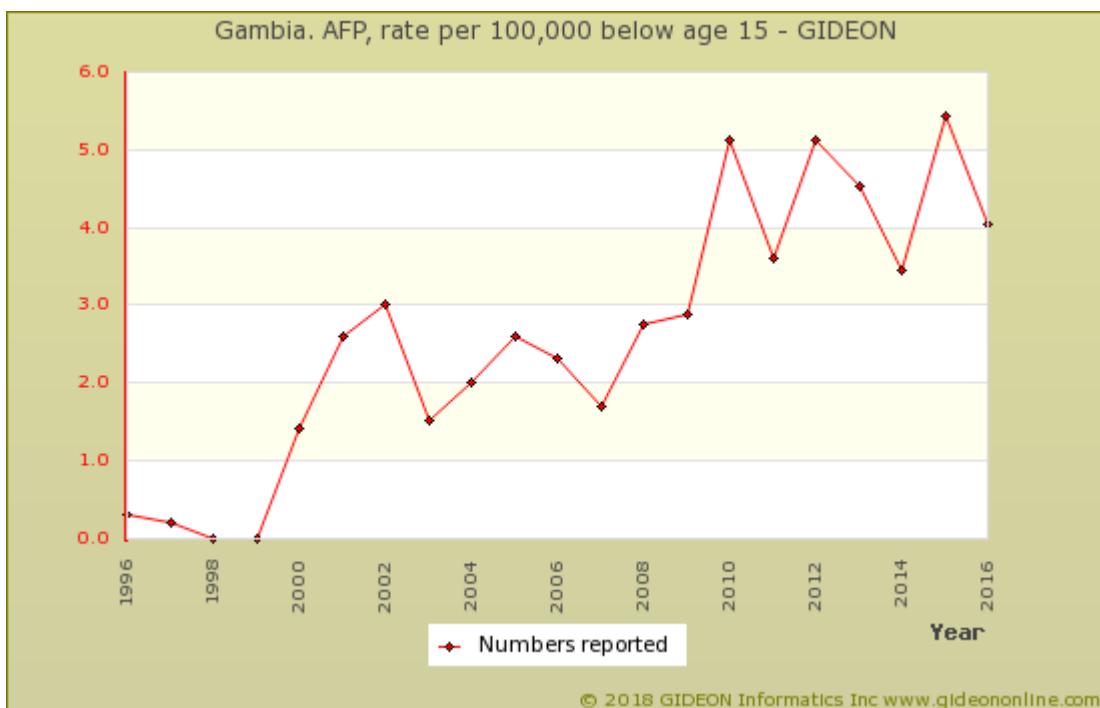
1976 - True number estimated at 100 cases, 10 fatal.

1997 - Not caused by wild virus strain.

2000 - None caused by wild virus strain.



Graph: Gambia. Acute flaccid paralysis (AFP), cases



Graph: Gambia. AFP, rate per 100,000 below age 15

Notable outbreaks

Years	Cases	Population	Notes
1986	341	children	Highest attack rates among children age 1 year. 1 2 3

References

1. Am J Epidemiol 1992 Feb 15;135(4):381-92.
2. Am J Epidemiol 1992 Feb 15;135(4):393-408.
3. J Infect Dis 1997 Feb ;175 Suppl 1:S254-7.

Protothecosis and chlorellosis

Agent	ALGA. <i>Prototheca wickerhamii</i> ; rarely <i>Pr. zopfii</i> , <i>Pr. cutis</i> Achloric algae Chlorella spp. contain chloroplasts
Reservoir	Rare animal pathogens (cat, dog, cattle wild mammals).
Vector	None
Vehicle	Water, Sewage, Food, Skin trauma
Incubation Period	Unknown
Diagnostic Tests	Culture on fungal media. Biopsy. Nucleic acid amplification.
Typical Adult Therapy	Surgical excision. There are anecdotal reports of successful therapy with Amphotericin B , Ketoconazole and Itraconazole (latter 200 mg/day X 2 months) or voriconazole
Typical Pediatric Therapy	As for adult (Itraconazole 2 mg/kg/day X 2 months)
Clinical Hints	- May follow immune suppression or skin trauma - Dermal papules, plaques, eczematoid or ulcerated lesions - Olecranon bursitis is common - Systemic infection reported in some cases
Synonyms	Chlorellosis, Prototheca, Protothecosis. ICD9: 136.8 ICD10: B99

Pseudocowpox

Agent	VIRUS - DNA. Poxviridae, Parapoxvirus: Pseudocowpox virus
Reservoir	Cattle
Vector	None
Vehicle	Contact
Incubation Period	5d - 14d
Diagnostic Tests	Viral culture (skin lesion or exudate). Serology. Nucleic acid amplification. Biosafety level 3.
Typical Adult Therapy	Supportive
Typical Pediatric Therapy	As for adult
Clinical Hints	- Umbilicated nodule on the hand following contact with cattle - Mild regional lymphadenopathy
Synonyms	Bovine papular stomatitis, Farmyard pox, Milker's nodule, Noduli mulgentinum, Paravaccinia, Sealpox. ICD9: 051.1 ICD10: B08.0

Pyoderma (impetigo, abscess, etc)

Agent	BACTERIUM. Various (<i>Staphylococcus aureus</i> & <i>Streptococcus pyogenes</i> predominate)
Reservoir	Human
Vector	None
Vehicle	Endogenous, Secretions, Contact, Trauma
Incubation Period	Variable
Diagnostic Tests	Clinical diagnosis usually sufficient. Aspiration of lesion for smear and culture may be helpful in some cases.
Typical Adult Therapy	Antibiotic directed at likely pathogens (Group A Streptococcus and Staphylococcus aureus)
Typical Pediatric Therapy	As for adult
Clinical Hints	- Impetigo is characterized by vesicles which progress to pustules ("honey-colored pus") - Highly contagious - May be complicated by acute glomerulonephritis
Synonyms	Acne vulgaris, Carbonchio, Carbuncle, Folicolite, Follicolite, Folliculite, Folliculitis, Follikulitis, Foroncolosi, Foronculose, Foruncolosi, Furunculosis, Furunkulose, Furunkulose, Hydradenitis, Impetigine, Impetigo, Paronychia, Pyoderma. ICD9: 680,684,686 ICD10: L01,L02,L08.0,L73.2

Pyomyositis

Agent	BACTERIUM. Usually <i>Staphylococcus aureus</i>
Reservoir	Human
Vector	None
Vehicle	Endogenous
Incubation Period	Variable
Diagnostic Tests	Ultrasonography or CT scan.
Typical Adult Therapy	Antibiotic directed at confirmed or suspected pathogen (usually <i>Staphylococcus aureus</i>); drainage
Typical Pediatric Therapy	As for adult
Clinical Hints	<ul style="list-style-type: none">- Pain, swelling and "woody" induration of a large muscle (usually lower limb or trunk)- Associated with fever and leukocytosis- Often follows trauma to the involved region- Lymphadenopathy uncommon; leucocytosis in most cases.
Synonyms	Tropical pyomyositis. ICD9: 040.81 ICD10: M60.0

Q-fever

Agent	BACTERIUM. <i>Coxiella burnetii</i> Intracellular organism related to Rickettsiae
Reservoir	Cattle, Sheep, Goat, Bird, Fish, Rodent, Rabbit, Tick, Bandicoot, Marsupial, Dog, Cat
Vector	None
Vehicle	Air, Dust, Secretions, Dairy products, Respiratory or pharyngeal acquisition
Incubation Period	18d - 21d (range 4d - 40d)
Diagnostic Tests	Serology. Culture possible in specialized laboratories. Nucleic acid amplification.
Typical Adult Therapy	Doxycycline 100 mg BID X 2w OR Fluoroquinolone Add Hydroxychloroquine 600 mg per day if endocarditis
Typical Pediatric Therapy	Age < 8 years: Erythromycin 10 mg/kg QID X 2 weeks Age >= 8 years: Doxycycline 100 mg BID X 2 weeks
Vaccine	Q fever vaccine
Clinical Hints	- Proximity to farming or animals during 2 to 4 weeks preceding illness - Headache, myalgia, cough and hepatic dysfunction - Hepatosplenomegaly, "F.U.O." and endocarditis are encountered - Most infections resolve in 1 to 2 weeks - Case-fatality rate is 1.5%
Synonyms	Balkan grippe, Candidatus <i>Coxiella massiliensis</i> , <i>Coxiella burnetii</i> , Febbre australiana, Febre Q, Nine Mile fever, Q-Fieber, Q-koorts, Query fever, Red River fever. ICD9: 083.0 ICD10: A78

Q-fever in Gambia

Seroprevalence surveys

Years	Region	Study Group	%	Notes
2008	Multiple locations	children	8.3	8.3% of children ages 1 to 15 years (8 villages) ¹
2012	Farafenni	sheep and goats	18.5-24.2	24.2% of goats and 18.5% of sheep in the Farafenni region (2012) ²
2016*	Kiang West	various	3.8-24.9	3.8% to 9.7% of adult humans and 24.9% of small ruminants ³

* indicates publication year (not necessarily year of survey)

References

1. [Trop Med Int Health](#) 2013 Jul ;18(7):850-3.
2. [PLoS One](#) 2014 ;9(1):e85424.
3. [Trop Med Int Health](#) 2017 Mar ;22(3):323-331.

Rabies

Agent	VIRUS - RNA. Rhabdoviridae, Mononegavirales, Lyssavirus: Rabies virus. Other human Lyssaviruses = Mokola, Duvenhage, European Bat (EBL)
Reservoir	Dog, Fox, Skunk, Jackal, Wolf, Cat, Raccoon, Mongoose, Bat, Rodent, Rabbit
Vector	None
Vehicle	Saliva, Bite, Transplants, Air (bat aerosol), Respiratory or pharyngeal acquisition
Incubation Period	1m - 3m (range 4d to 19 years !)
Diagnostic Tests	Viral culture & direct immunofluorescence of saliva, CSF, corneal smears. Serology. Nucleic acid amplification.
Typical Adult Therapy	Strict isolation; supportive. The Milwaukee protocol (prolonged deep sedation and support) has been successful in some cases. See Vaccines module for pre- and post-exposure schedules
Typical Pediatric Therapy	As for adult
Vaccines	Rabies vaccine Rabies immune globulin
Clinical Hints	- Follows animal bite (rarely lick) - often after months - Agitation, confusion, seizures, painful spasms of respiratory muscles - Progressive paralysis, coma and death - Case-fatality rate exceeds 99.9%
Synonyms	Aravan, Australian bat lyssavirus, Ballina, BBLV, Bokeloh bat lyssavirus, Duvenhage, EBL, European bat Lyssavirus, Hondsdoelheid, Hydrophobia, Ikoma lyssavirus, Irkut, Khujand, Lyssa, Mokola, Pteropus lyssavirus, Rabia, Rage, Raiva, Saint Hubert's disease, Shimoni bat virus, Tollwut, West Caucasian bat, Wutkrankheit. ICD9: 071 ICD10: A82

Rabies in Gambia

Eight cases of human rabies were reported in 1993 - all from dogs.

983 postexposure treatment courses were administered in 1993.

Three rabid animals were registered in 1993.

Cross-border events

Includes rabies in imported animals

Years	Acquired by **	Originated in **	Setting	Cases	Notes
2008	France	Gambia	Rabies in imported dog	1	Imported from Gambia into Belgium, and then driven into France. 1 2

** Country or Nationality

References

1. [Euro Surveill 2008 Apr 30;13\(18\)](#)
2. [ProMED <promedmail.org> archive: 20080502.1507](#)

Rat bite fever - spirillary

Agent	BACTERIUM. <i>Spirillum minus</i> An aerobic gram-negative spirochete
Reservoir	Rat, Mouse, Cat
Vector	None
Vehicle	Bite
Incubation Period	7d - 21d (range 5d - 40d)
Diagnostic Tests	Dark-field exam of wound. Animal inoculation.
Typical Adult Therapy	Amoxicillin / Clavulanate 875 / 125 mg PO BID X 7d. OR Procaine Penicillin G 600,000u IM q12h X 7d. OR Doxycycline 200 mg BID X 7d
Typical Pediatric Therapy	Amoxicillin / Clavulanate 10 mg/kg PO BID X 7d OR Procaine Penicillin G 25,000u/kg IM q12h X 7d
Clinical Hints	- Symptoms begin 1 to 3 weeks following rat bite - Lymphadenopathy, myalgia, maculopapular rash and recurrent fever - Infection resolves after 3 to 6 days - Case-fatality rate is 6%
Synonyms	Sodoku, Spirilosis, <i>Spirillum minor</i> , <i>Spirillum minus</i> . ICD9: 026.0 ICD10: A25.0

Rat bite fever - streptobacillary

Agent	BACTERIUM. <i>Streptobacillus moniliformis</i> A facultative gram-negative bacillus
Reservoir	Rat, Squirrel, Weasel, Turkey
Vector	None
Vehicle	Secretions, Bite, Dairy products
Incubation Period	3d - 10d (range 1d - 22d)
Diagnostic Tests	Culture of blood or joint fluid. Nucleic acid amplification.
Typical Adult Therapy	Amoxicillin / Clavulanate 875 / 125 mg PO BID X 7d. OR Doxycycline 100 mg PO BID X 7d
Typical Pediatric Therapy	Amoxicillin / Clavulanate 10 mg/kg TID X 7d. OR (if age > 8 years) Doxycycline 2 mg/kg PO BID X 7 days (maximum 200 mg/day)
Clinical Hints	- History of a rat bite during the preceding 1 to 3 weeks in most cases - Headache, myalgia, maculopapular rash and arthralgia or arthritis - Infection has also been acquired from contaminated milk - The case-fatality rate is 10%.
Synonyms	Haverhill fever, Streptobacillosis, <i>Streptobacillus moniliformis</i> . ICD9: 026.1 ICD10: A25.1

Relapsing fever

Agent	BACTERIUM. <i>Borrelia</i> spp. A microaerophilic spirochete
Reservoir	Human, Tick, Rodent
Vector	Tick (<i>Ornithodoros</i>), Louse (<i>Pediculus</i>)
Vehicle	Blood, Blood products
Incubation Period	7d - 8d (range 2d - 18d)
Diagnostic Tests	Examination of blood smears (thick and thin smears). Some species (<i>B. hermsii</i>) may grow in BSK II medium.
Typical Adult Therapy	Doxycycline 100 mg PO BID X 7d. OR Erythromycin 500 mg QID X 7d A single dose of Tetracycline 500 mg or erythromycin 500 mg may suffice for louse-borne infection
Typical Pediatric Therapy	Chloramphenicol 12.5 mg/kg PO QID X 7d. OR Erythromycin 10 mg/kg QID X 7d
Clinical Hints	- Headache, myalgia, hepatosplenomegaly and rash - Relapsing illness Louse-borne (vs. tick borne) infection characterized by: - higher case-fatality rate - fewer relapses - higher incidence of hepatosplenomegaly, jaundice and neurological complications
Synonyms	Bilious typhoid, <i>Borrelia anserina</i> , <i>Borrelia braziliensis</i> , <i>Borrelia caucasica</i> , <i>Borrelia coriaceae</i> , <i>Borrelia crociduræ</i> , <i>Borrelia dipodilli</i> , <i>Borrelia duttonii</i> , <i>Borrelia graingeri</i> , <i>Borrelia hispanica</i> , <i>Borrelia latyschewii</i> , <i>Borrelia mazzottii</i> , <i>Borrelia merionesi</i> , <i>Borrelia microti</i> , <i>Borrelia miyamotoi</i> , <i>Borrelia parkeri</i> , <i>Borrelia persica</i> , <i>Borrelia queenslandica</i> , <i>Borrelia recurrentis</i> , <i>Borrelia theileri</i> , <i>Borrelia turicatae</i> , <i>Borrelia uzbekistana</i> , <i>Borrelia venezuelensis</i> , <i>Borreliosis</i> , <i>Candidatus Borrelia algerica</i> , <i>Candidatus Borrelia kalaharica</i> , Famine fever, Febbre recidiva, Febbre ricorrente, Febris recurrens, Fiebre recurrente, Lauseruckfallfieber, Mianeh fever, Ruckfall fieber, Tilbakefallsfeber, Tilbakefallsfever, Vagabond fever, Yellow famine fever, Yellow plague. ICD9: 087.9,087.0,087.1 ICD10: A68

Relapsing fever in Gambia

1999 - A case of tick-borne relapsing fever caused by *Borrelia crociduræ* was reported. ¹

References

1. [J Clin Microbiol](#) 1999 Jun ;37(6):2027-30.

Respiratory syncytial virus infection

Agent	VIRUS - RNA. Paramyxoviridae, Pneumovirinae: Human respiratory syncytial virus
Reservoir	Human
Vector	None
Vehicle	Droplet, Infected secretions (hands), Respiratory or pharyngeal acquisition
Incubation Period	2d - 8d
Diagnostic Tests	Viral culture or DFA (nasal and other respiratory secretions). Serology. Nucleic acid amplification.
Typical Adult Therapy	Ribavirin aerosol 20 mg/ml for 12h/d X 3 to 5d (severe infections). Effectiveness not proven
Typical Pediatric Therapy	As for adult
Vaccine	RSV immune globulin
Clinical Hints	- Most cases occur during infancy - Rhinorrhea, cough, wheezing, bronchiolitis and respiratory distress
Synonyms	Chimpanzee coryza agent, Respiratory syncytial virus, RSV. ICD9: 079.6,480.1 ICD10: B97.4,J12.1

Respiratory syncytial virus infection in Gambia

Time and Place

Rates of Respiratory syncytial virus (RSV) infection peak during the cool, rainy season (August to November). ¹

- The incidence of RSV infection among children below age 12 months is 8 per 1,000 child years (western region, 1994 to 1996).

Prevalence surveys

Years	Region	Study Group	%	Notes
1991*	Banjul	children	12	12% of children ages 1 to 9 years hospitalized for severe pneumonia (1991 publication) ²
1994 - 1996	Western Region	children	8.77	8.77% of severe acute lower respiratory infection among children below the age of 2 years (western region, 1994 to 1996) ³

* indicates publication year (not necessarily year of survey)

Notable outbreaks

Years	Notes
1993 - 1996	Outbreaks (4 outbreaks) of Respiratory syncytial virus infection were reported. ⁴

References

- Pediatr Infect Dis J 2004 Jan ;23(1):73-4.
- Pediatr Infect Dis J 1991 Jan ;10(1):42-7.

- Int J Epidemiol 1999 Feb ;28(1):157-62.
- Pediatr Infect Dis J 1998 Mar ;17(3):224-30.

Respiratory viruses - miscellaneous

Agent	VIRUS - RNA and DNA Paramyxoviridae: Mononegavirales Human Metapneumovirus Coronaviridae: New Haven Coronavirus, HKU1 Parvovirinae: Human Bocavirus
Reservoir	Human
Vector	None
Vehicle	Droplet, Secretions (on hands), Respiratory or pharyngeal acquisition
Incubation Period	Unknown
Diagnostic Tests	Viral culture. Serology. Nucleic acid amplification.
Typical Adult Therapy	NA
Typical Pediatric Therapy	NA
Clinical Hints	- Rhinorrhea, cough, wheezing, bronchiolitis and respiratory distress - Age distribution and prominence of specific signs / symptoms vary among the specific viruses in this category
Synonyms	Acanthamoeba polyphaga mimivirus, Bat reovirus, Bocaparvovirus, Bocavirus, Bradford coccus, Cardiovirus, Coronavirus HKU1, Coronavirus NL63, Encephalomyocarditis Virus, HCoV-HKU1, HCoV-NL63, HK23629/07, HKU1, HRV-A, HRV-B, HRV-C, Human Bocavirus, Human Coronavirus NL63, Human CoV 229E, Human CoV OC43, Human metapneumovirus, Human rhinovirus, Kampar, Karolinska Institutet virus, KI virus, Melaka, Metapneumovirus, Mimivirus, New Haven coronavirus, Pulau, Rhinovirus, Small Anellovirus, Sosuga, Tioman virus, Torque tenovirus, Torquethenovirus, Washington University virus, WU polyomavirus, WU virus. ICD9: 079.89 ICD10: B34.2,J12.8

Reye's syndrome

Agent	UNKNOWN
Reservoir	Unknown
Vector	None
Vehicle	Unknown
Incubation Period	Unknown
Diagnostic Tests	Clinical diagnosis.
Typical Adult Therapy	Electrolyte & glucose management, ? enemas, ? dialysis
Typical Pediatric Therapy	As for adult
Clinical Hints	<ul style="list-style-type: none">- Follows viral infection; aspirin ingestion is often implicated.- Vomiting, lethargy, coma, seizures- Hepatomegaly, hypoglycemia and elevated blood ammonia concentration- Patients are usually anicteric
Synonyms	Reye syndrome. ICD9: 331.81 ICD10: G93.7

Rheumatic fever

Agent	BACTERIUM. <i>Streptococcus pyogenes</i> A facultative gram-positive coccus
Reservoir	Human
Vector	None
Vehicle	Droplet
Incubation Period	1w - 5w
Diagnostic Tests	Clinical diagnosis.
Typical Adult Therapy	Supportive; salicylates
Typical Pediatric Therapy	As for adult
Clinical Hints	- In most cases, illness follows overt pharyngitis, after 1 to 5 weeks - Migratory arthritis, fever, carditis, chorea - Subcutaneous nodules, erythema marginatum and leukocytosis - An attack of rheumatic fever will persist for approximately 3 months
Synonyms	Febbre reumatica. ICD9: 390,391 ICD10: I00,I01,I02

Rhinoscleroma and ozena

Agent	BACTERIUM. <i>Klebsiella pneumoniae</i> ssp <i>ozaenae</i> and <i>Klebsiella pneumoniae</i> ssp <i>rhinoscleromatis</i> Facultative gram-negative bacilli
Reservoir	Human
Vector	None
Vehicle	Secretions, Contact, Respiratory or pharyngeal acquisition
Incubation Period	Unknown
Diagnostic Tests	Culture. Biopsy. Nucleic acid amplification. Advise laboratory when this diagnosis is suspected.
Typical Adult Therapy	Rhinoscleroma: Ciprofloxacin 750 mg PO BID X 3 months Ozena: Ciprofloxacin 750 mg PO BID X 3 months or Sulfamethoxazole / Trimethoprim X 3 months
Typical Pediatric Therapy	Rhinoscleroma: Streptomycin , often with systemic or topical Rifampin - for 3 to 6 weeks Ozena: Ciprofloxacin or Sulfamethoxazole / Trimethoprim for 3 months
Clinical Hints	Rhinoscleroma: - Chronic fetid nasal discharge - A crusting mass may develop in the nose - Infection may extend to the larynx, trachea or paranasal sinuses Ozena: - Chronic rhinitis progressing to atrophy of the nasal mucosa - Extension to the larynx and systemic infection have been reported
Synonyms	Klebsiella pneumoniae ssp <i>ozaenae</i> , Ozena, Rhinoscleroma. ICD9: 040.1 ICD10: J31.0

Rhodococcus equi infection

Agent	BACTERIUM. <i>Rhodococcus equi</i> An aerobic gram-positive coccobacillus
Reservoir	Farm animal, Farm soil
Vector	None
Vehicle	Inhalation, Contact, Ingestion
Incubation Period	Unknown
Diagnostic Tests	Culture of blood, body fluids and secretions. Advise laboratory when these organisms are suspected.
Typical Adult Therapy	Two drugs from the following, administered for two months: Levofloxacin , Rifampin , Azithromycin , Ciprofloxacin , Imipenem , Vancomycin
Typical Pediatric Therapy	Two drugs from the following, administered for two months: Levofloxacin , Rifampin , Azithromycin , Imipenem , Vancomycin
Clinical Hints	- 40% of patients recall recent contact with farm or farm animals - Most often presents as pleuropulmonary infection in an immune-suppressed individual
Synonyms	Rhodococcus. ICD9: 027.9 ICD10: A92.8

Rift Valley fever

Agent	VIRUS - RNA. Bunyaviridae, Phlebovirus: Rift Valley fever virus
Reservoir	Sheep, Ruminant
Vector	Mosquito (<i>Culex, Aedes, Anopheles, Eretmapodites, Mansonia, Culicoides, Coquillettidia</i> spp.)
Vehicle	Respiratory or pharyngeal acquisition
Incubation Period	3d - 5d (range 2d - 7d)
Diagnostic Tests	Viral culture (blood, CSF). Serology. Nucleic acid amplification. Biosafety level 3.
Typical Adult Therapy	Supportive. Animal studies suggest a possible role for Ribavirin .
Typical Pediatric Therapy	As for adult
Vaccine	Rift Valley fever vaccine
Clinical Hints	- May be history of contact with sheep or cattle during the preceding week - Headache, myalgia, photophobia, arthralgia and a maculopapular rash - Jaundice, hemorrhagic fever or retinitis with blindness in some cases - Case fatality rate is below 1%
Synonyms	Arumowot, Enzootic hepatitis, Gabek Forest, Gordil, Riftvalleykoorts, Zinga. ICD9: 066.3 ICD10: A92.4

Although Rift Valley fever is not endemic to Gambia, imported, expatriate or other presentations of the disease have been associated with this country.

Rift Valley fever in Gambia

Seroprevalence surveys

Years	Study Group	%	Notes
1989*	ungulates	24	24% of domestic ungulates (1989 publication) ¹

* indicates publication year (not necessarily year of survey)

References

1. [Res Virol 1989 Jan-Feb;140\(1\):67-77.](#)

Rotavirus infection

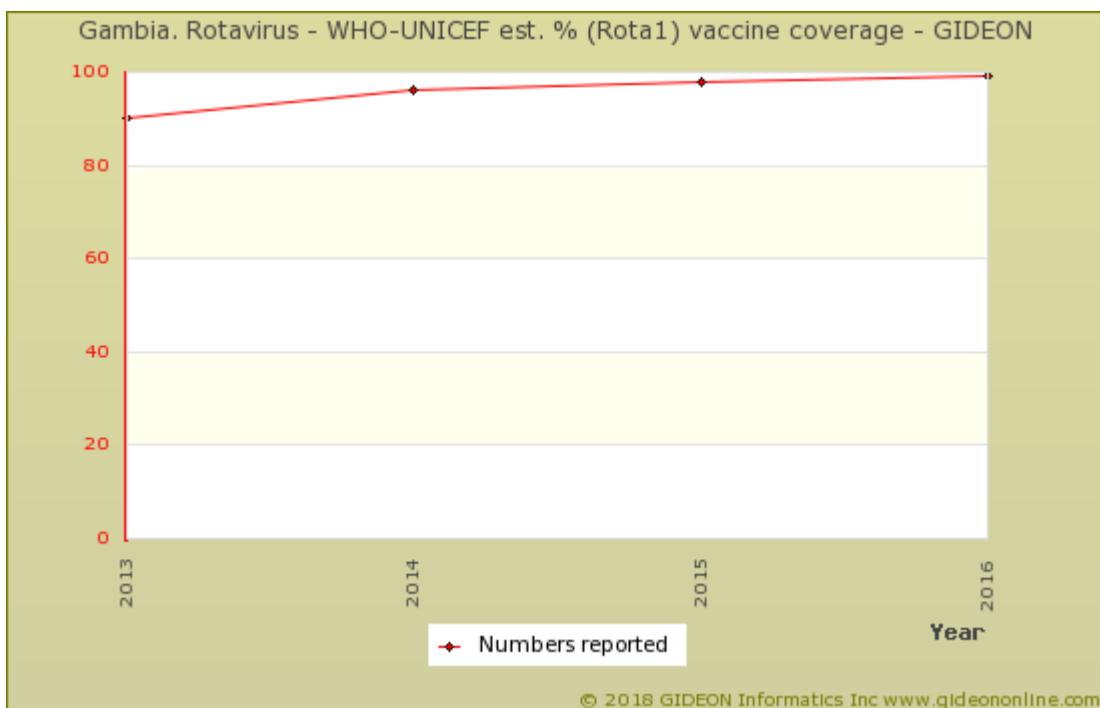
Agent	VIRUS - RNA. Reoviridae: Rotavirus
Reservoir	Human, Pig
Vector	None
Vehicle	Fecal-oral, Water
Incubation Period	2.0 d (range 12h - 3d)
Diagnostic Tests	Stool assay for viral antigen. Serology. Nucleic acid amplification.
Typical Adult Therapy	Stool precautions; supportive
Typical Pediatric Therapy	As for adult
Vaccine	Rotavirus vaccine
Clinical Hints	- Vomiting, diarrhea and mild fever - The illness lasts approximately 1 week, and is most severe in infancy - Fatal cases are associated with dehydration and electrolyte imbalance
Synonyms	Rotavirus. ICD9: 008.61 ICD10: A08.0

Rotavirus infection in Gambia

Vaccine Schedule:

BCG - birth
 DTwP - 18-24 months; booster
 DTwPHibHepB - 2,3,4 months
 HepB - birth
 HPV - 9-13 years; +6 months
 IPV - 4 months
 Measles - 9,18 months
 OPV - birth 2, 3, 4, 9,18 months
 Pneumo conj - 2,3,4 months
 Rotavirus - 2,3,4 months
 TT - 1st contact; +1, +6 months; +1, +2 year
 YF - 9 months

Rotavirus vaccination was introduced in 2013. ¹



Graph: Gambia. Rotavirus - WHO-UNICEF est. % (Rota1) vaccine coverage

Highest rates of Rotavirus infection are reported during the cool, dry season. [2](#) [3](#)

Prevalence surveys

Years	Region	Study Group	%	Notes
2014		children	25	25% of children below age 5 years hospitalized for diarrhea 4
2014*	Upper Volta Region	children	20	20% of children ages <5 years with moderate-to-severe diarrhea (Upper Volta region, 2014 publication) 5

* indicates publication year (not necessarily year of survey)

Notable outbreaks

Years	Notes
1985 - 1986	Outbreak reported - additional details unavailable. 6

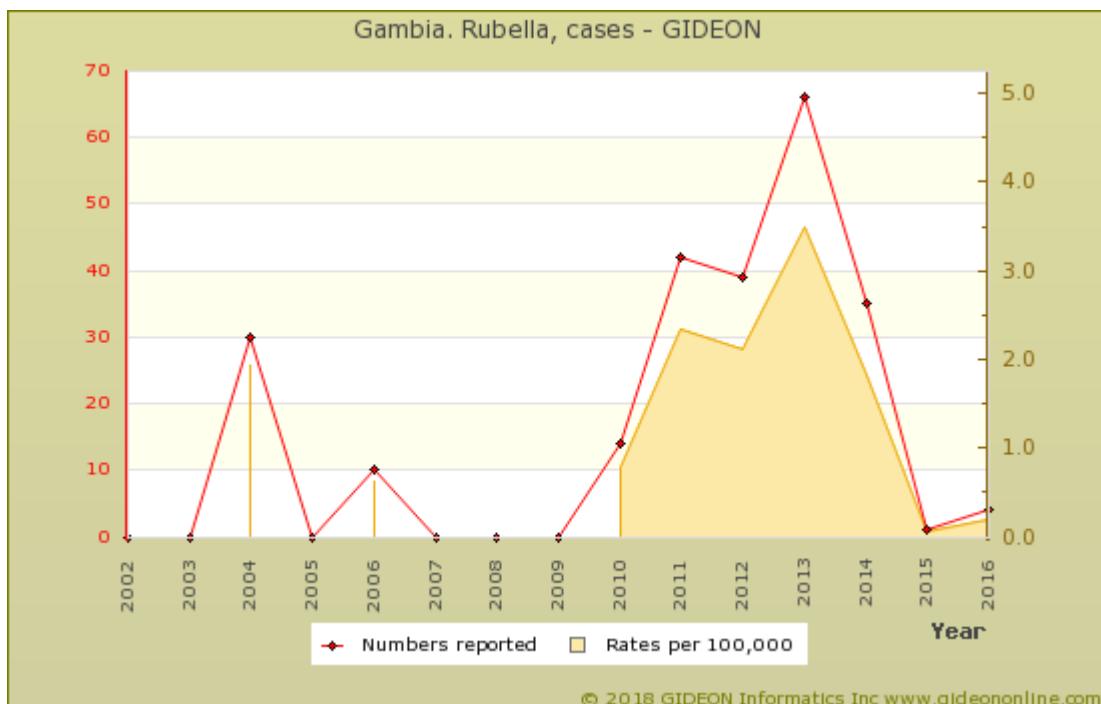
References

1. MMWR Morb Mortal Wkly Rep 2017 Nov 03;66(43):1192-1196.
2. Ann Trop Paediatr 1985 Mar ;5(1):23-8.
3. Dialogue Diarrhoea 1986 Sep ;(26):3.
4. MMWR Morb Mortal Wkly Rep 2017 Nov 03;66(43):1192-1196.
5. Pediatr Infect Dis J 2014 Jan ;33 Suppl 1:S69-75.
6. Ann Trop Paediatr 1987 Dec ;7(4):238-43.

Rubella

Agent	VIRUS - RNA. Togaviridae: Rubivirus, Rubella virus
Reservoir	Human
Vector	None
Vehicle	Contact, Air, Transplacental, Breastfeeding, Respiratory or pharyngeal acquisition
Incubation Period	16d - 18d (range 14d - 23d)
Diagnostic Tests	Viral culture (throat, urine). Serology. Nucleic acid amplification.
Typical Adult Therapy	Respiratory precautions. Supportive
Typical Pediatric Therapy	As for adult
Vaccines	Rubella vaccine Rubella - Mumps vaccine Measles-Mumps-Rubella vaccine Measles-Rubella vaccine
Clinical Hints	- Maculopapular rash following a one-day prodrome of coryza and headache - Post auricular lymphadenopathy - Arthralgia and arthritis are encountered in adults - Severe thrombocytopenia or encephalitis may follow acute infection - Congenital rubella characterized by hearing loss, congenital heart disease, cataracts, mental retardation and other abnormalities
Synonyms	Epidemic roseola, German measles, Roda hund, Rode hond, Rode hunder, Rodehond, Rosolia, Roteln, Rubeola [Spanish], Three-day measles. ICD9: 056 ICD10: B06

Rubella in Gambia



Graph: Gambia. Rubella, cases

Gambia. Rubella - CRS, cases: None reported between 2002 and 2016

Seroprevalence surveys

Years	Study Group	%	Notes
1985*	children	93	93% of girls by age 14 (1985 publication) 1

* indicates publication year (not necessarily year of survey)

Notable outbreaks

Years	Notes
1972 - 1973	Outbreak reported - additional details unavailable. 2

References

-
1. Rev Infect Dis 1985 Mar-Apr;7 Suppl 1:S68-71.
 2. Bull World Health Organ 1980 ;58(6):931-5.

Salmonellosis

Agent	BACTERIUM. <i>Salmonella</i> A facultative gram-negative bacillus
Reservoir	Mammal, Bird, Reptile
Vector	None
Vehicle	Food, Milk, Eggs, Poultry Shellfish, Meat, Vegetables, Fruit, Fecal-oral Breastfeeding, Fly
Incubation Period	12h - 36h (range 6h - 6d)
Diagnostic Tests	Culture (stool, blood, infected tissue). Serology.
Typical Adult Therapy	Stool precautions. Therapy not indicated for uncomplicated diarrhea; if necessary, treat per antibiogram
Typical Pediatric Therapy	As for adult
Clinical Hints	- Onset 12 to 24 hours after ingestion of eggs, meat, poultry - Fever, chills and watery diarrhea - Fecal leucocytes present - Fever resolves in 2 days; but diarrhea may persist for up to 7 days (occasionally weeks)
Synonyms	Salmonellosen, Salmonellosi. ICD9: 003 ICD10: A02

Salmonellosis in Gambia

Prevalence surveys

Years	Region	Study Group	%	Notes
1983*	Banjul	children	5.3	Fecal specimens from well nourished children ¹
1983*	Banjul	children	3.4	Fecal specimens from malnourished children ²
2011 - 2012	Upper River Region	insects	0.6	<i>Chrysomya putoria</i> blowflies at village latrines ³

* indicates publication year (not necessarily year of survey)

References

1. Trans R Soc Trop Med Hyg 1983 ;77(2):245-7.
2. Trans R Soc Trop Med Hyg 1983 ;77(2):245-7.
3. PLoS Negl Trop Dis 2012 ;6(11):e1895.

Sarcocystosis

Agent	PARASITE - Protozoa. Coccidea, Eimerida: <i>Sarcocystis bovihominis</i> or <i>S. suisomnis</i>
Reservoir	Cattle, Pig
Vector	None
Vehicle	Meat, Water
Incubation Period	9d - 39d
Diagnostic Tests	Identification of cysts in stool.
Typical Adult Therapy	Supportive
Typical Pediatric Therapy	As for adult
Clinical Hints	- Diarrhea and abdominal pain of varying severity - Muscle pain and eosinophilia occasionally encountered
Synonyms	Isospora hominis, Kudoa, Sarcocystiasis, Sarcocystis, Sarcosporidiosis. ICD9: 136.5 ICD10: A07.8

Scabies

Agent	PARASITE - Arthropod. Arachnid, Acarina (Mite), Sarcoptae: <i>Sarcoptes (Acarus) scabiei</i>
Reservoir	Human
Vector	Mite
Vehicle	Contact, Sexual contact
Incubation Period	3d - 42d
Diagnostic Tests	Identification of mites in skin scrapings.
Typical Adult Therapy	Permethrin 5%. OR Lindane. OR Crotamiton 10% OR Ivermectin 150 to 200 mcg/kg PO as single dose
Typical Pediatric Therapy	Permethrin 5%. OR Lindane. OR Crotamiton 10% OR Ivermectin 200 mcg/kg PO (> 15 kg body weight)
Clinical Hints	- Intensely pruritic papules, vesicles and burrows - Lesions prominent at interdigital webs, wrists, elbows, axillae, perineal region, buttocks and penis - Pruritus is most intense at night - Severe psoriaform infestation (Norwegian scabies) may affect debilitated individuals
Synonyms	Cheyletiella, Cheyletiella infestation, Escabiose, Escabiosis, Histostomatid mites, Kratze, Mange, Ornithonyssus, Pyemotes, Sarcoptes scabiei, Sarna, Scabbia, Skabies, Tropical rat mite. ICD9: 133 ICD10: B86

Scarlet fever

Agent	BACTERIUM. <i>Streptococcus pyogenes</i> A facultative gram-positive coccus
Reservoir	Human
Vector	None
Vehicle	Secretions, Food, Respiratory or pharyngeal acquisition
Incubation Period	1d - 4d
Diagnostic Tests	Typical clinical features associated with group A streptococcal pharyngitis.
Typical Adult Therapy	Benzathine Penicillin G 1.2 million units IM as single dose
Typical Pediatric Therapy	Benzathine Penicillin G : Weight <14kg: 300,000 units IM Weight 14 to 28kg: 600,000 units IM Weight >28kg: 1.2 million units IM
Clinical Hints	- Overt exudative pharyngitis - Appearance of a florid desquamative erythematous rash within 24 to 48 hours - Facial flushing and circum-oral pallor - Lingual desquamation ("strawberry tongue")
Synonyms	Escarlatina, Lanhousha, Scarlattina, Scharlach. ICD9: 034.1 ICD10: A38

Schistosomiasis - haematobium

Agent	PARASITE - Platyhelminthes, Trematoda. Strigeida, Schistosomatidae: <i>Schistosoma haematobium</i>
Reservoir	Snail (<i>Bulinus, Planorbarius, Ferrissia</i>), Baboon or monkey
Vector	None
Vehicle	Water (skin contact)
Incubation Period	2w - 6w
Diagnostic Tests	Identification of ova in urine or stool. Serology. Antigen detection.
Typical Adult Therapy	Praziquantel 20 mg/kg PO BID X 1 day
Typical Pediatric Therapy	As for adult
Clinical Hints	- Early urticaria, fever and eosinophilia - Chronic disease associated with dysuria, hematuria and obstructive nephropathy - May evolve to bladder cancer in advanced cases - Parasite survives for decades in human host
Synonyms	Bilharziasis, urinary, Egyptian hematuria, Katayama fever [1], <i>Schistosoma guineensis</i> , <i>Schistosoma haematobium</i> , Schistosomal hematuria, Schistosomiasis, Vesicle bilharziasis. ICD9: 120.0 ICD10: B65.0

Schistosomiasis - haematobium in Gambia

Schistosoma haematobium is found throughout the country, including urban areas.

Prevalence surveys

Years	Region	Study Group	%	Notes
1977*	McCarthy Island Division	children	100	100% by age 10 in the laterite plateau area of the McCarthy Island Division (1977 publication) ¹
2011*	Multiple locations	general population	17.6	17.6% of the general population ages <=20 years (estimate, 2011 publication) ²

* indicates publication year (not necessarily year of survey)

The local snail reservoirs are *Bulinus rohlfsi*, *B. senegalensis* ³ and *B. jousseaumei*.

References

1. Ann Trop Med Parasitol 1977 Mar ;71(1):53-8.
2. PLoS Negl Trop Dis 2011 Jun ;5(6):e1194.
3. Tropenmed Parasitol 1984 Mar ;35(1):29-36.

Schistosomiasis - mansoni

Agent	PARASITE - Platyhelminthes, Trematoda. Strigeida, Schistosomatidae: <i>Schistosoma mansoni</i>
Reservoir	Snail (<i>Biomphalaria</i>), Dog, Cat, Pig, Cattle, Rodent, Horse, Non-human primate
Vector	None
Vehicle	Water (skin contact)
Incubation Period	2w - 6w
Diagnostic Tests	Identification of ova in stool or biopsy specimens. Serology. Antigen detection.
Typical Adult Therapy	Praziquantel 20 mg/kg PO BID X one day OR Oxamniquine 15 mg PO X one dose
Typical Pediatric Therapy	Praziquantel 20 mg/kg PO BID X one day OR Oxamniquine 10 mg PO BID X one day
Clinical Hints	- Early urticaria, fever and eosinophilia - Later, hepatosplenomegaly and portal hypertension - Parasite may survive for decades in human host
Synonyms	Bilharziasis, intestinal, Katayama fever [3], <i>Schistosoma mansoni</i> . ICD9: 120.1 ICD10: B65.1

Schistosomiasis - mansoni in Gambia

Schistosoma mansoni is found throughout the country, including urban areas.

Prevalence surveys

Years	Region	Study Group	%	Notes
2015*	Kiang West Province	food handlers	0.8	0.8% of food handlers in Kiang West Province (2015 publication) ¹
1995*		general population	1.5	1.5% of the general population (1995 publication) ²
2011*		general population	0.5	0.5% of the general population ages <=20 years (estimate, 2011 publication) ³

* indicates publication year (not necessarily year of survey)

The local snail reservoirs are *Biomphalaria pfeifferi* and *B. camerunensis*. ⁴

References

- 1. [Trans R Soc Trop Med Hyg 2015 May ;109\(5\):334-9.](#)
- 2. [East Afr Med J 1995 Aug ;72\(8\):527-30.](#)
- 3. [PLoS Negl Trop Dis 2011 Jun ;5\(6\):e1194.](#)
- 4. [Ann Trop Med Parasitol 1954 Sep ;48\(3\):277-86.](#)

Septic arthritis

Agent	BACTERIUM or FUNGUS. Gram positive cocci most common; gram negative bacilli, gonococci, mycobacteria , fungi, et al
Reservoir	Human
Vector	None
Vehicle	Endogenous
Incubation Period	Variable
Diagnostic Tests	Smear and culture of joint fluid. Cytological and chemical analysis of joint fluid also useful.
Typical Adult Therapy	Antimicrobial agent(s) directed at known or likely pathogen
Typical Pediatric Therapy	As for adult
Clinical Hints	<ul style="list-style-type: none">- Fever (60% to 80%) associated with swelling, erythema and tenderness- Usually involves a single joint, most commonly knee (elbow or ankle in children)- Mean fluid leukocyte count in acute bacterial forms is 50,000 per cu mm
Synonyms	

Septicemia - bacterial

Agent	BACTERIUM. <i>Escherichia coli</i> , <i>Staphylococcus aureus</i> , facultative gram negative bacilli, et al
Reservoir	Human
Vector	None
Vehicle	Endogenous
Incubation Period	Variable
Diagnostic Tests	Culture of blood and sepsis source.
Typical Adult Therapy	Antimicrobial agent(s) directed at known or likely pathogen
Typical Pediatric Therapy	As for adult
Clinical Hints	- Fever, rigors, leukocytosis, tachypnea, mental changes - Hypotension, acidosis and bleeding diathesis herald septic shock - Additional signs (eg, urinary infection, phlebitis, etc) may point to the source of infection
Synonyms	Sepsis, Septicaemia, Septicemia, Septicemie, Septikemie, Setticemia. ICD9: 036.2,036.3,038 ICD10: A40,A41

Shigellosis

Agent	BACTERIUM. <i>Shigella sonnei</i> , <i>Shigella flexneri</i> , <i>Shigella boydii</i> or <i>Shigella dysenteriae</i> A facultative gram-negative bacillus
Reservoir	Human, Non-human primate
Vector	None
Vehicle	Fecal-oral, Water, Dairy products, Fomite, Fly, Vegetables
Incubation Period	48h - 72h (range 7h - 1w)
Diagnostic Tests	Stool culture.
Typical Adult Therapy	Stool precautions. Choice of antimicrobial agent based on regional susceptibility patterns. Continue treatment for five days
Typical Pediatric Therapy	As for adult
Clinical Hints	- Watery or bloody diarrhea, tenesmus, abdominal pain and headache - Colonic hyperemia and abundant fecal leucocytes are present - Usually resolves in 3 days, but may persist for up to 14 - Reported case fatality rate is 1% - severity and mortality highest with <i>Shigella dysenteriae</i> infection
Synonyms	Bacillaire dysenterie, Bacillary dysentery, Dissenteria batterica, Dysenteria bacillaris, Leptospirenerkrankung, Ruhr, Shigella, Shigellose, Shigellose, Übertragbare Ruhr. ICD9: 004 ICD10: A03

Shigellosis in Gambia

Prevalence surveys

Years	Region	Study Group	%	Notes
2015*	Kiang West Province	food handlers	0	0% of food handlers in Kiang West Province (2015 publication) ¹
2011 - 2012	Upper River Region	insects	1.4	1.4% of <i>Chrysomya putoria</i> blowflies at village latrines (surface cultures, 2012 publication) ²

* indicates publication year (not necessarily year of survey)

References

1. Trans R Soc Trop Med Hyg 2015 May ;109(5):334-9.
2. PLoS Negl Trop Dis 2012 ;6(11):e1895.

Sinusitis

Agent	BACTERIUM. Various (<i>Haemophilus influenzae</i> & <i>Streptococcus pneumoniae</i> in most acute cases)
Reservoir	Human
Vector	None
Vehicle	None
Incubation Period	Variable
Diagnostic Tests	Imaging techniques. Culture of sinus drainage.
Typical Adult Therapy	Amoxicillin / Clavulanate 2000 / 125 mg BID X 7 days Drainage as indicated Alternatives: Levofloxacin , Cllindamycin, Cefuroxime , Cefdinir
Typical Pediatric Therapy	Amoxicillin / Clavulanate 90 / 6.4 mg/kg BID X 7 days Drainage as indicated Alternatives: Cllindamycin, Cefuroxime , Cefdinir
Clinical Hints	- Sinusitis often follows upper respiratory infections - Headache, fever and local tenderness are common - The precise presentation varies with patient age and anatomic localization
Synonyms	Acute sinusitis, Mastoidite, Mastoiditis, Rhinosinusitis, Sinusite. ICD9: 473.9,383.0,461 ICD10: H70,J01

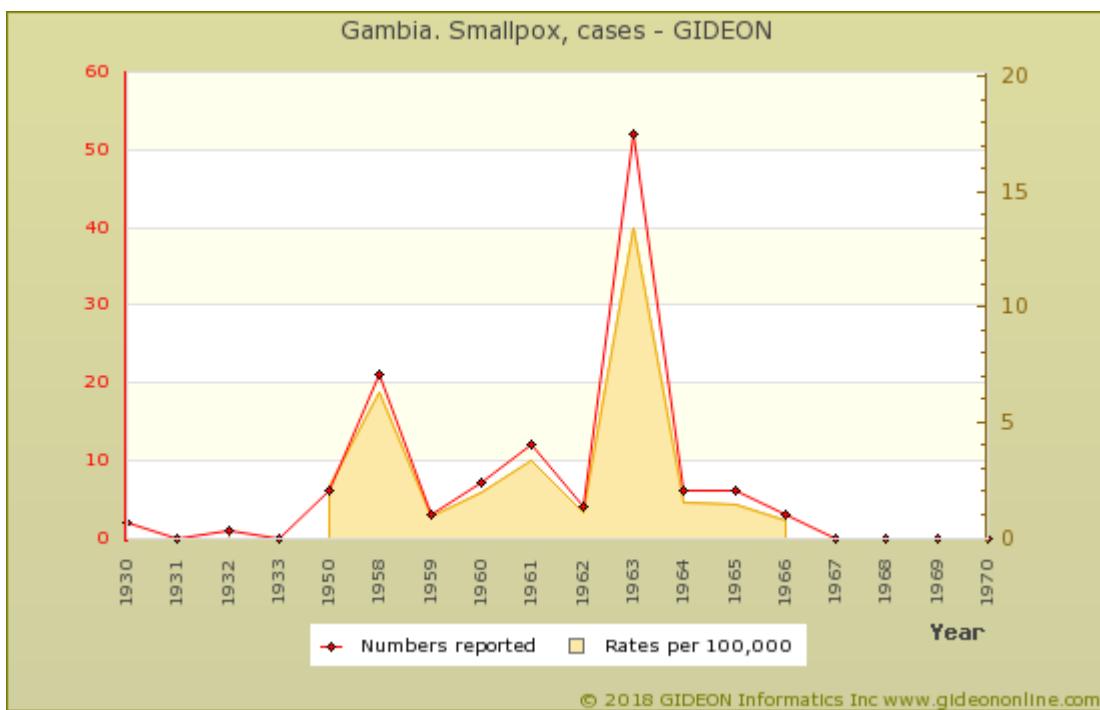
Smallpox

Agent	VIRUS - DNA. Poxviridae, Orthopoxvirus: Variola virus
Reservoir	Human
Vector	None
Vehicle	Contact, Secretions, Fomite, Respiratory or pharyngeal acquisition
Incubation Period	7d - 17d
Diagnostic Tests	Culture and electron microscopy of skin lesions. Serology. Nucleic acid amplification. Biosafety level 3.
Typical Adult Therapy	Isolation Tecovirimat 400 to 600 mg PO once daily X 14 days Cidofovir is effective in vitro
Typical Pediatric Therapy	Isolation Pediatric dosage of Tecovirimat not established
Vaccine	Smallpox vaccine
Clinical Hints	- Fever, myalgia, headache with pustular or hemorrhagic rash - Disease resolves in 2 to 3 weeks - Reported case-fatality rate is 25% for severe form (variola major) and 1% for minor form; - The last naturally-acquired case was reported in Somalia in 1977
Synonyms	Alastrim, Eczema vaccinatum, Kopper, Smallpox, Vailo, Variola, Variola minor, Varioloid. ICD9: 050 ICD10: B03

Not currently endemic to any country.

Although Smallpox is not endemic to Gambia, imported, expatriate or other presentations of the disease have been associated with this country.

Smallpox in Gambia

**Notes:**

1. Two fatal cases were reported in 1930; 0 in 1932

Indigenous transmission ended in 1966.

Sporotrichosis

Agent	FUNGUS. Ascomycota, Euascomycetes, Ophiostomatales: <i>Sporothrix schenckii</i> , <i>S. brasiliensis</i> and <i>S. globosa</i> A dimorphic dematiaceous fungus
Reservoir	Soil, Vegetation, Wood
Vector	None
Vehicle	Trauma, Contact, Air, Respiratory or pharyngeal acquisition
Incubation Period	1w - 3m
Diagnostic Tests	Fungal culture. Serologic tests available in some centers.
Typical Adult Therapy	Itraconazole 100 to 200 mg PO daily X 3 to 6 months. OR Fluconazole 400 mg PO daily X 6 months. OR Potassium iodide 1 to 5 ml PO TID X 3 to 6 months
Typical Pediatric Therapy	Itraconazole 2 mg/kg PO daily X 3 to 6 months. OR Fluconazole 3 mg/kg PO daily X 6 months.
Clinical Hints	- Recent contact with flowers, thorns, trees or other plant material (occasionally cats) - Draining nodules which appear along the course of lymphatics - Eye, brain, testis, bone and other tissues may be involved
Synonyms	Rose gardener's disease, Schenck's disease, Sporothrix brasiliensis, Sporothrix chiensis, Sporothrix globosa, Sporothrix mexicana, Sporothrix schenckii, Sporotrichose. ICD9: 117.1 ICD10: B42

Spotted fevers - Old World

Agent	BACTERIUM. <i>Rickettsia conorii</i> subsp. <i>conorii</i> , <i>R. aeschlimannii</i> , <i>R. helvetica</i> , <i>R. massiliae</i> , <i>R. monacensis</i> , <i>R. slovaka</i>
Reservoir	Dog, Rodent, Tick
Vector	Tick (<i>Rhipicephalus sanguineus</i> , <i>Hyalomma</i> spp, <i>Boophilus</i> spp, <i>Dermacentor</i> spp, et al)
Vehicle	None
Incubation Period	6d - 7d (range 3d - 18d)
Diagnostic Tests	Serology. Demonstration of rickettsiae by immunofluorescence or culture. Nucleic acid amplification.
Typical Adult Therapy	Doxycycline 100 mg PO BID X 3 to 5d. OR Chloramphenicol 500 mg PO QID X 3 to 5d
Typical Pediatric Therapy	Doxycycline 2 mg/kg PO BID X 3 to 5d (maximum 200 mg/day). OR Chloramphenicol 10 mg/kg PO QID X 3 to 5d
Clinical Hints	- Patient may recall tick bite or dog contact during the preceding 1 to 3 weeks - Headache, myalgia, maculopapular rash - An eschar may be identifiable - Untreated disease resolves within two weeks - Case-fatality rates of 2% to 3% are reported
Synonyms	Boutonneuse fever, Candidatus <i>Rickettsia kellyi</i> , Candidatus <i>Rickettsia tarasevichiae</i> , DEBONEL, Febre escaro-nodular, Febre escaronodular, Indian tick typhus, Kenya tick typhus, Marseilles fever, Mediterranean spotted fever, <i>R. aeschlimannii</i> , <i>Rickettsia aeschlimannii</i> , <i>Rickettsia conorii</i> subsp <i>conorii</i> , <i>Rickettsia conorii</i> subsp <i>indica</i> , <i>Rickettsia gravesii</i> , <i>Rickettsia helvetica</i> , <i>Rickettsia massiliae</i> , <i>Rickettsia monacensis</i> , <i>Rickettsia raoultii</i> , <i>Rickettsia slovaca</i> , <i>Rickettsia</i> sp. XY99, Thai spotted fever, TIBOLA, Tick-borne lymphadenopathy. ICD9: 082.1 ICD10: A77.1

Staphylococcal food poisoning

Agent	BACTERIUM. <i>Staphylococcus aureus</i> exotoxins
Reservoir	Human (nares, hands), Cattle (udder), Dog/Cat (nasopharyngeal)
Vector	None
Vehicle	Food (creams, gravies, sauces)
Incubation Period	2h - 4h (range 30 min - 9h)
Diagnostic Tests	Identification of bacterium in food.
Typical Adult Therapy	Supportive
Typical Pediatric Therapy	As for adult
Clinical Hints	<ul style="list-style-type: none">- Onset 1 to 6 hours after food ingestion- "Explosive" diarrhea and vomiting- Usually no fever- No fecal leucocytes- Resolves within 1 to 2 days- Fatality is rarely reported
Synonyms	Staphylococcus aureus food poisoning. ICD9: 005.0 ICD10: A05.0

Staphylococcal scalded skin syndrome

Agent	BACTERIUM. <i>Staphylococcus aureus</i> phage group 2 A facultative gram-positive coccus
Reservoir	Human
Vector	None
Vehicle	Contact, Secretions
Incubation Period	1d - 4d
Diagnostic Tests	Typical clinical features; Recovery of <i>S. aureus</i> from localized wound or blood ; skin biopsy may be helpful
Typical Adult Therapy	Fluid replacement (as for burn) ; Intravenous Nafcillin or Oxacillin , in addition to application of anti-staphylococcal drug to local source infection; Vancomycin if MRSA Clindamycin used to interfere with toxin production.
Typical Pediatric Therapy	Fluid replacement (as for thermal burn) ; Intravenous Nafcillin or Oxacillin , in addition to application of anti-staphylococcal drug to local source infection; Vancomycin if MRSA
Clinical Hints	- Acute, generalized exfoliative dermatitis which occurs primarily in infants and young children - A pre-existing localized skin infection is present in most cases
Synonyms	Lyell disease, Ritter disease, Ritter von Ritterschein disease, Scalded skin syndrome, SSSS. ICD9: 695.81 ICD10: L00

Streptococcus suis infection

Agent	BACTERIUM. <i>Streptococcus suis</i> I and <i>Streptococcus suis</i> II A facultative gram-positive coccus
Reservoir	Pig
Vector	None
Vehicle	Air, Secretions, Meat, Wound, Contact
Incubation Period	Unknown. Probably hours to few days
Diagnostic Tests	Culture of blood, tissue, body fluids
Typical Adult Therapy	Systemic antibiotic. Usually susceptible in vitro to Penicillin, Amoxicillin, Chloramphenicol and Gentamicin
Typical Pediatric Therapy	Systemic antibiotic
Clinical Hints	- Disease appears hours to a few days after contact with pigs or pig products - Severe multisystem illness, hemorrhagic diatheses, deafness or meningitis
Synonyms	Streptococcus suis. ICD9: 027.8 ICD10: A48.8

Strongyloidiasis

Agent	PARASITE - Nematoda. Secernentea: <i>Strongyloides stercoralis</i> (<i>Strongyloides fulleborni</i> is occasionally implicated in systemic disease)
Reservoir	Human, Dog, Monkey (for <i>Strongyloides fulleborni</i>)
Vector	None
Vehicle	Skin contact, Soil, Feces, Autoinfection, Sexual contact
Incubation Period	14d - 30d
Diagnostic Tests	Identification of larvae (or ova, for <i>Strongyloides fulleborni</i>) in stool or duodenal aspirate. Serology.
Typical Adult Therapy	Ivermectin 200 micrograms/kg/d PO daily X 2d OR Thiabendazole 25 mg/kg BID (max 3g) X 2d OR Albendazole 400 mg/d X 3d (7 days for hyperinfection syndrome)
Typical Pediatric Therapy	Ivermectin 200 micrograms/kg/d PO daily X 2d OR Thiabendazole 25 mg/kg BID (max 3g) X 2d. OR Albendazole 200 mg/d X 3d (7 days for hyperinfection syndrome)
Clinical Hints	- Diarrhea - Gluteal or perineal pruritus and rash - Eosinophilia often present - Widespread dissemination encountered among immune-suppressed patients (case-fatality rate for this complication = 80%)
Synonyms	Anguilluliasis, Anguillulosis, Cochin China gastroenteritis, Diploscapter, Halicephalobus, Larva currens, Leptodera intestinals, Leptodera stercoralis, Lungworm, Metastrongylus, Micronema, Pseudo-rhabdis stercoralis, Rhabditis stercoralis, Rhabdonema intestinale, Rhabdonema stercoralis, <i>Strongyloides fulleborni</i> , <i>Strongyloides stercoralis</i> , Strongyloidose, Threadworm, Turbatrix. ICD9: 127.2 ICD10: B78

Strongyloidiasis in Gambia

Prevalence surveys

Years	Region	Study Group	%	Notes
2015*	Kiang West	food handlers	2.8	2.8% of food handlers in Kiang West Province (2015 publication) ¹

* indicates publication year (not necessarily year of survey)

References

- Trans R Soc Trop Med Hyg 2015 May ;109(5):334-9.

Subdural empyema

Agent	BACTERIUM. <i>Haemophilus influenzae</i> , oral anaerobes, streptococci, et al
Reservoir	Human
Vector	None
Vehicle	Endogenous
Incubation Period	Variable
Diagnostic Tests	Imaging techniques (CT scan, etc).
Typical Adult Therapy	Antimicrobial agent(s) directed at known or likely pathogen
Typical Pediatric Therapy	As for adult
Clinical Hints	<ul style="list-style-type: none">- Fever, severe headache, vomiting- Signs of meningeal irritation and increased cerebrospinal fluid pressure- May follow head trauma, meningitis, otitis or sinusitis- Case-fatality rates vary from 15% (patient alert) to 60% (comatose)
Synonyms	

Suppurative parotitis

Agent	BACTERIUM. Most commonly <i>Staphylococcus aureus</i>
Reservoir	Human
Vector	None
Vehicle	Endogenous
Incubation Period	Unknown
Diagnostic Tests	Clinical features (local swelling and purulent discharge from salivary ducts). Stain and culture of discharge.
Typical Adult Therapy	Surgical drainage and aggressive parenteral antistaphylococcal therapy
Typical Pediatric Therapy	As for adult
Clinical Hints	- Consider in patient with unexplained fever in the setting of malnutrition, dehydration and obtundation - Local swelling and discharge of pus from salivary duct
Synonyms	Parotitis, bacterial. ICD9: 527.2 ICD10: K11.3

Syphilis

Agent	BACTERIUM. <i>Treponema pallidum</i> subsp. <i>pallidum</i> A microaerophilic gram-negative spirochete
Reservoir	Human
Vector	None
Vehicle	Sexual contact, Secretions, Respiratory or pharyngeal acquisition
Incubation Period	2w - 4w (range 10d - >8w)
Diagnostic Tests	Dark field microscopy (chancre). VDRL confirmed by antitreponemal test (FTA, MHTP). Nucleic acid amplification.
Typical Adult Therapy	Primary, secondary or early (< 1 year) latent: Benzathine Penicillin G 2.4 million units IM Other stages: Repeat dosage at one and two weeks Alternatives: Tetracycline , Ceftriaxone
Typical Pediatric Therapy	Primary, secondary or early (< 1 year) latent: Benzathine Penicillin G : Weight <14 kg: 600,000u IM Weight 14 to 28 kg: 1,200,000u IM Other stages: Repeat dosage at one and two weeks
Clinical Hints	- Firm, painless chancre (primary syphilis) - Fever, papulosquamous rash and multisystem infection (secondary syphilis) - Late necrotic lesions of brain, aorta, bone or other organs (tertiary syphilis)
Synonyms	Canton rash, Chinese ulcer, Christian disease, French disease, German sickness, Harde sjanker, Lues, Neopolitan itch, Polish sickness, Sifilide, Sifilis, Spanish pockes, Syphilis, Treponema pallidum. ICD9: 090,091,092,093,094,095,096,097 ICD10: A50,A51,A52,A53

Syphilis in Gambia

Prevalence surveys

Years	Region	Study Group	%	Notes
1987*	Banjul	patients - STD	22	22% of genital ulcer disease treated in STD clinics (1987 publication) 1 2

* indicates publication year (not necessarily year of survey)

Seroprevalence surveys

Years	Region	Study Group	%	Notes
1986 *		general population	17.5	17.5% of the rural population (1986 publication) 3
2008	Western Division	general population	2-10	10% of women and 2% of men in rural Gambia (2001 publication) 4
1994 - 2007	Banjul	patients - STD	1.5-11.2	11.2% of patients attending a genitourinary clinic in Fajara in 1994, and 1.5% in 2007 5
1986 *		pregnant women	15	15.0% of women attending antenatal clinics (1986 publication) 6
1983 *		sex workers	74.2	74.2% of CSW (1983 publication) 7

* indicates publication year (not necessarily year of survey)

References

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1. [Genitourin Med 1987 Oct ;63\(5\):312-5.](#)
 2. [Bull World Health Organ 1990 ;68\(5\):639-54.](#)
 3. [Bull World Health Organ 1990 ;68\(5\):639-54.](#)
 4. [Sex Transm Infect 2001 Oct ;77\(5\):358-65.](#)
 5. [Sex Transm Dis 2009 Dec ;36\(12\):745-9.](#)
 6. [Bull World Health Organ 1990 ;68\(5\):639-54.](#)
 7. [Bull World Health Organ 1990 ;68\(5\):639-54.](#)

Taeniasis

Agent	PARASITE - Platyhelminthes, Cestoda. Cyclophyllidea, Taeniidae: <i>Taenia solium</i> & <i>T. saginata</i> (other species occasionally encountered)
Reservoir	Cattle, Pig
Vector	None
Vehicle	Meat
Incubation Period	6w - 14w
Diagnostic Tests	Identification of ova or proglottids in feces.
Typical Adult Therapy	Praziquantel 10 mg/kg PO as single dose OR Niclosamide 2 g PO once
Typical Pediatric Therapy	Praziquantel 10 mg/kg PO as single dose OR Niclosamide 50 mg/kg PO once
Clinical Hints	- Vomiting and weight loss - Often symptomatic or first recognized due to passage of proglottids - Parasite may survive for over 25 years in the human intestine
Synonyms	Bandwurmer [Taenia], Drepanidotaenia, Gordiid worm, Hair snake, Mesocestoides, Raillietina, Taenia asiatica, Taenia longihamatus, Taenia saginata, Taenia saginata asiatica, Taenia solium, Taenia taeniaformis, Taeniarhynchiasis, Tapeworm (pork or beef), Tenia. ICD9: 123.0,123.2 ICD10: B68

Taeniasis in Gambia

Prevalence surveys

Years	Region	Study Group	%	Notes
2010*	Multiple locations	pigs	0.1-1	0.1% to 1% of household pigs in Gambia and Senegal (porcine cysticercosis, 2010 publication) ¹

* indicates publication year (not necessarily year of survey)

References

1. J Parasitol Res 2010 ;2010:823892.

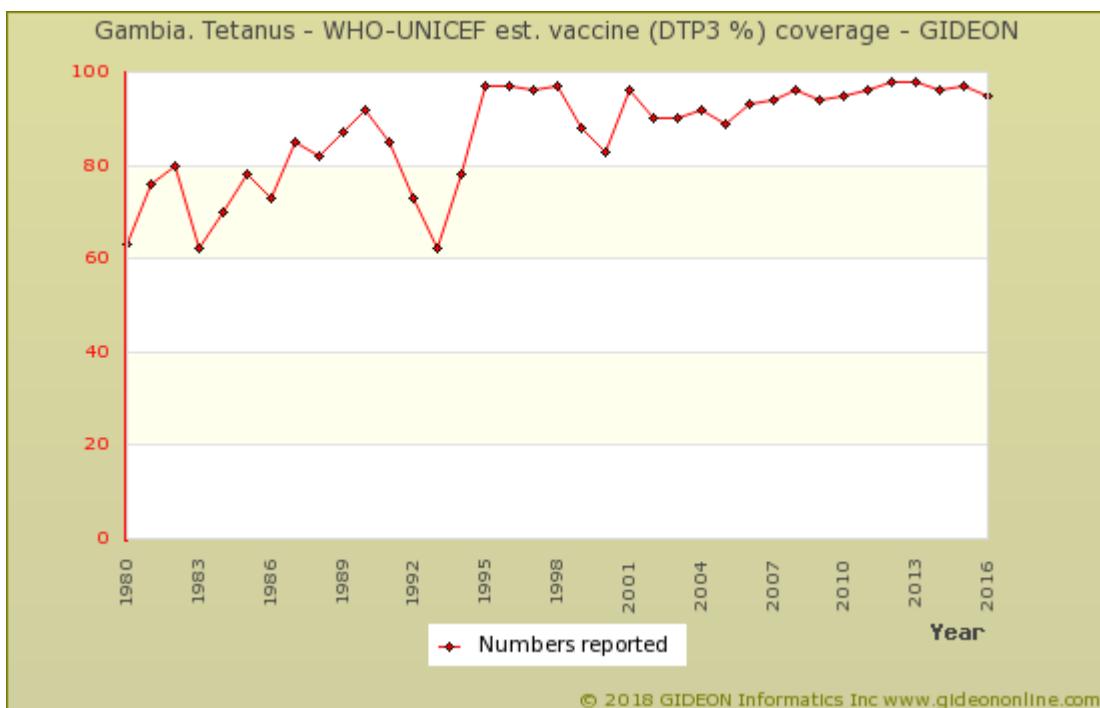
Tetanus

Agent	BACTERIUM. <i>Clostridium tetani</i> An anaerobic gram-positive bacillus
Reservoir	Animal feces, Soil
Vector	None
Vehicle	Trauma
Incubation Period	6d - 8d (range 1d - 90d)
Diagnostic Tests	Isolation of <i>C. tetani</i> from wound is rarely helpful. Serology (specimen taken before administration of antitoxin).
Typical Adult Therapy	Human antitoxin (see Vaccine module). Metronidazole (2 g daily) or Penicillin G (24 million u daily) or Doxycycline (200 mg daily). Diazepam (30 to 240 mg daily). Tracheostomy, hyperalimentation
Typical Pediatric Therapy	Human antitoxin (see Vaccine module). Metronidazole (30 mg/kg daily); or Penicillin G (300,000 units/kilo daily). Diazepam. Tracheostomy, hyperalimentation
Vaccines	DT vaccine DTaP vaccine DTP vaccine Td vaccine Tetanus immune globulin Tetanus vaccine
Clinical Hints	- Trismus, facial spasm, opisthotonus and tachycardia - Recurrent tonic spasms of skeletal muscle - Sensorium is clear - Disease may persist for 4 to 6 weeks - Case fatality rates of 10% to 40% are reported
Synonyms	Lockjaw, Starrkrampf, Stelkrampf, Tetano, Tetanos. ICD9: 037,771.3 ICD10: A33,A34,A35

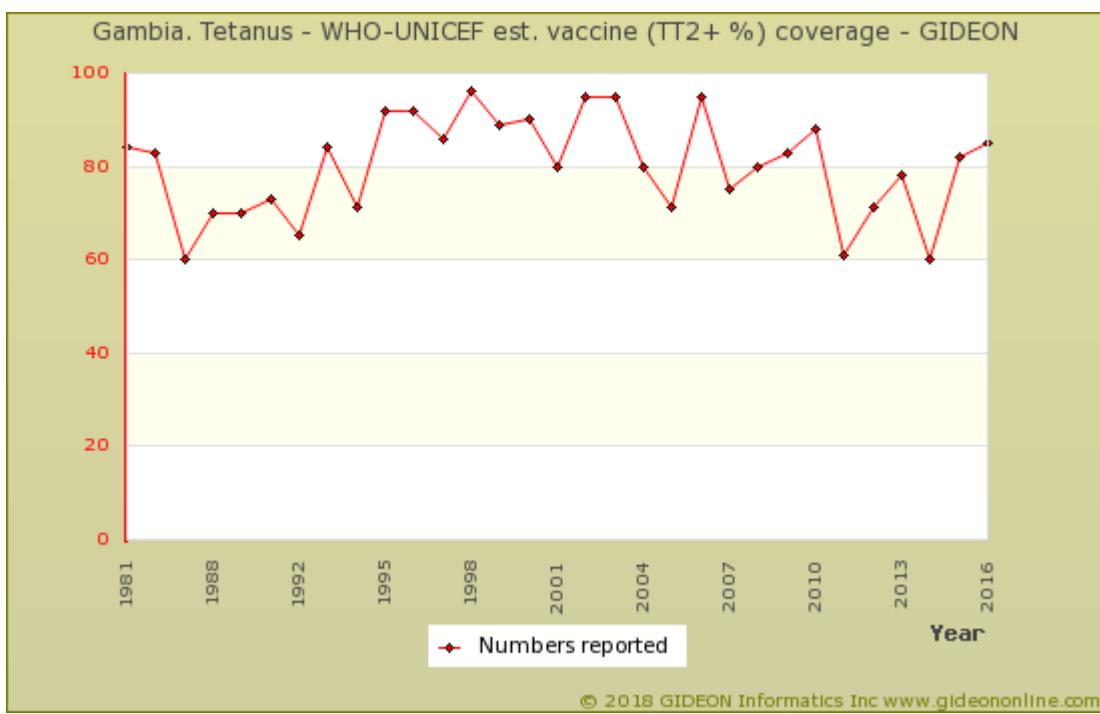
Tetanus in Gambia

Vaccine Schedule:

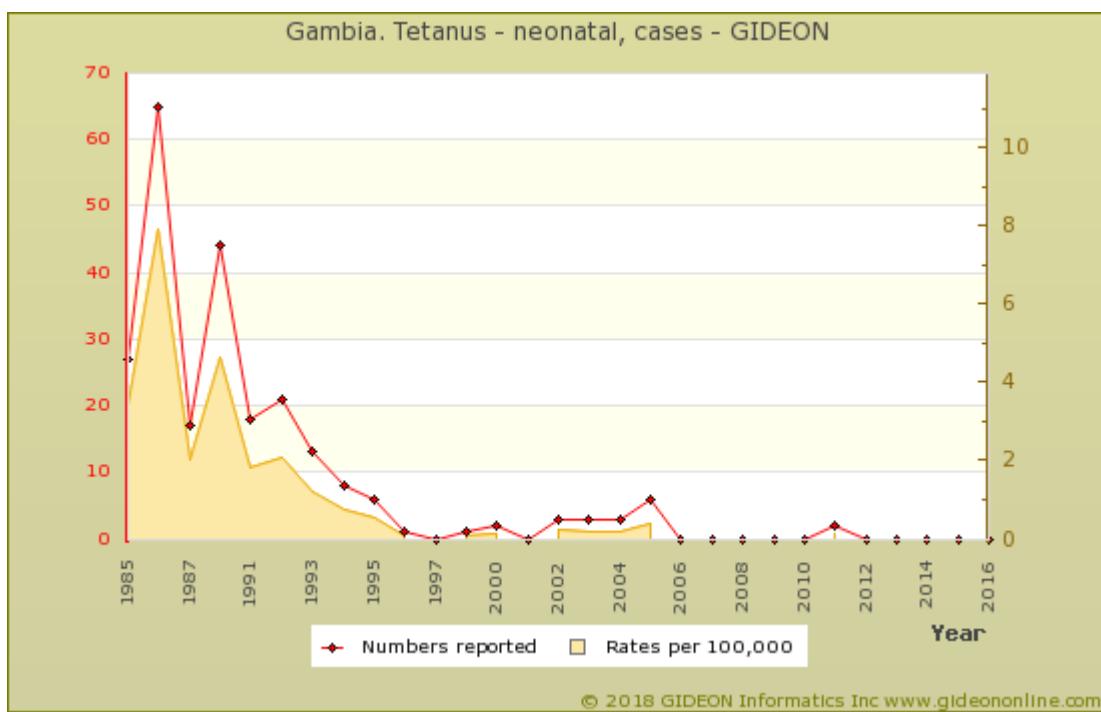
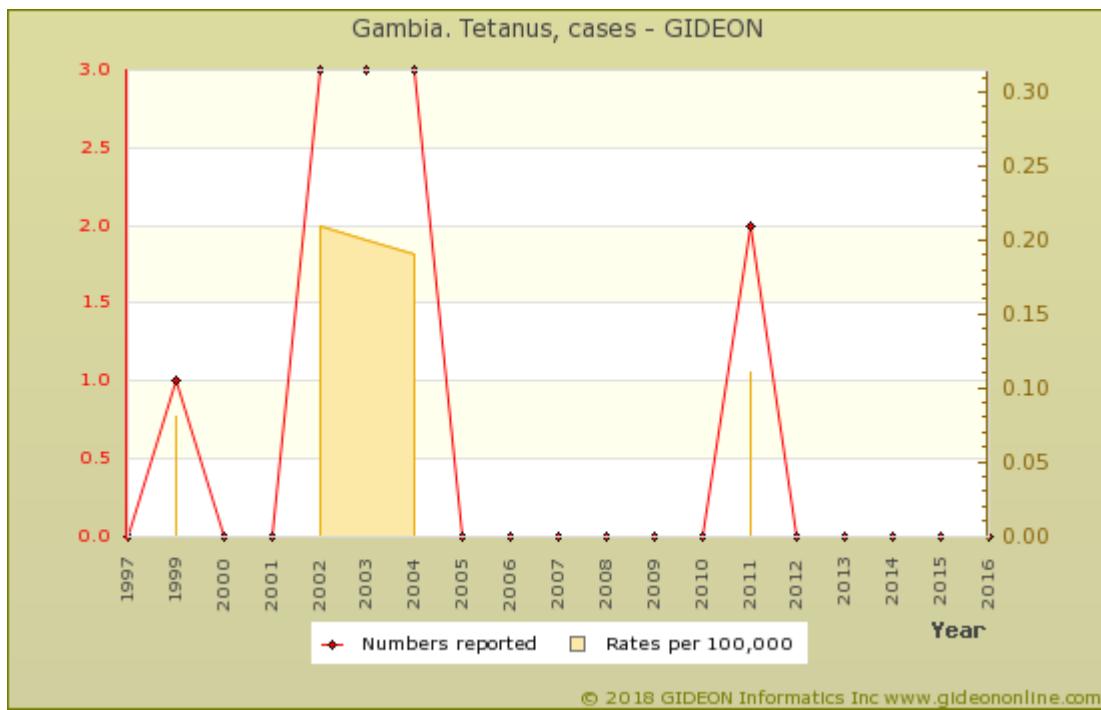
BCG - birth
 DTwP - 18-24 months; booster
 DTwPHibHepB - 2,3,4 months
 HepB - birth
 HPV - 9-13 years; +6 months
 IPV - 4 months
 Measles - 9,18 months
 OPV - birth 2, 3, 4, 9,18 months
 Pneumo conj - 2,3,4 months
 Rotavirus - 2,3,4 months
 TT - 1st contact; +1, +6 months; +1, +2 year
 YF - 9 months



Graph: Gambia. Tetanus - WHO-UNICEF est. vaccine (DTP3 %) coverage



Graph: Gambia. Tetanus - WHO-UNICEF est. vaccine (TT2+ %) coverage

**Notes:**

Individual years:

1976 - 1,350 cases of neonatal tetanus (1,080 fatal) were estimated.

Toxic shock syndrome

Agent	BACTERIUM. <i>Staphylococcus aureus</i> , <i>Streptococcus pyogenes</i> , et al - (toxins) Facultative gram-positive cocci
Reservoir	Human
Vector	None
Vehicle	Tampon (Bandage, etc)
Incubation Period	Unknown
Diagnostic Tests	Isolation of toxigenic <i>Staphylococcus aureus</i> . Toxin assay available in specialized laboratories.
Typical Adult Therapy	The role of topical (eg, vaginal) and systemic antistaphylococcal antibiotics is unclear; however, most authorities suggest intravenous administration of an anti-staphylococcal (anti-MRSA, anti-streptococcal as indicated) antibiotic.
Typical Pediatric Therapy	As for adult
Clinical Hints	- Most cases associated with "super absorbent" tampon use or staphylococcal wound infection - Fever (>38.9), hypotension (<90 mm Hg) and dermal erythema with desquamation - Respiratory, cardiac or other disease present - Case-fatality rates of 5% to 10% are reported
Synonyms	Streptococcal toxic shock syndrome, TSS. ICD9: 040.82 ICD10: A48.3

Toxocariasis

Agent	PARASITE - Nematoda. Secernentea: <i>Toxocara cati</i> and <i>T. canis</i>
Reservoir	Cat, Dog, Mouse
Vector	None
Vehicle	Soil ingestion
Incubation Period	1w - 2y
Diagnostic Tests	Identification of larvae in tissue. Serology.
Typical Adult Therapy	Albendazole 400 mg BID X 5d. OR Mebendazole 100 to 200 mg PO bid X 5 days Add corticosteroids if eye, brain, heart or lung involvement is present.
Typical Pediatric Therapy	As for adult
Clinical Hints	- Cough, myalgia, seizures and urticaria - Hepatomegaly, pulmonary infiltrates or retrobulbar lesions may be present - Marked eosinophilia is common - Symptoms resolve after several weeks, but eosinophilia may persist for years
Synonyms	Ascaris suum, <i>Toxocara canis</i> , <i>Toxocara cati</i> , Toxocarose, Toxocarosis, Visceral larva migrans. ICD9: 128.0 ICD10: B83.0

Toxoplasmosis

Agent	PARASITE - Protozoa. Apicomplexa, Eimeriida: <i>Toxoplasma gondii</i>
Reservoir	Rodent, Pig, Cattle, Sheep, Chicken, Bird, Cat, Marsupial
Vector	None
Vehicle	Transplacental, Meat, Soil ingestion, Water , Milk, Filth flies
Incubation Period	1w - 3w (range 5d - 21d)
Diagnostic Tests	Serology. Cultivation or identification of organisms per specialized laboratories. Nucleic acid amplification.
Typical Adult Therapy	Pyrimethamine 25 mg/d + Sulfonamides 100 mg/kg (max 6g)/d X 4w - give with folinic acid. Alternatives: Clindamycin , Azithromycin , Dapsone . Spiramycin (in pregnancy) 4g/d X 4w
Typical Pediatric Therapy	Pyrimethamine 2 mg/kg/d X 3d, then 1 mg/kg/d + Sulfonamides 100 mg/kg/d X 4w - give with folinic acid. Alternatives: Clindamycin , Azithromycin , Dapsone .
Clinical Hints	- Fever, lymphadenopathy, hepatic dysfunction or chorioretinitis - Cerebral cysts often encountered in patients with AIDS - Congenital hydrocephalus associated with mental retardation - Seizures or blindness
Synonyms	Toxoplasma, Toxoplasmose, Toxoplasmosi. ICD9: 130 ICD10: B58

Trachoma

Agent	BACTERIUM. <i>Chlamydia trachomatis</i> , type A
Reservoir	Human
Vector	Fly
Vehicle	Secretions, Contact, Fly, Fomite
Incubation Period	5d - 12d
Diagnostic Tests	Culture or direct immunofluorescence of secretions. Serology. Nucleic acid amplification.
Typical Adult Therapy	Azithromycin 1 g po as single dose. OR Doxycycline 100 mg/day PO X 21 days. Also administer topical Tetracycline
Typical Pediatric Therapy	Azithromycin 20 mg/kg as single dose. Also administer topical Tetracycline
Clinical Hints	- Keratoconjunctivitis with follicular hypertrophy, palpebral scarring and pannus formation - In later stages, eyelashes may protrude inward or outward - 0.5% of infections result in blindness
Synonyms	Egyptian ophthalmia, Granular conjunctivitis, Kornerkrankheit, Trachom, Tracoma. ICD9: 076 ICD10: A71

Trachoma in Gambia

Prevalence surveys

Years	Region	Study Group	%	Notes
2003 - 2005	West Kiang	children	21.4	21.4% of rural children ages 6 to 78 months (active trachoma, 2010 publication) ¹
2006 - 2006	North Bank Region	children	10	10.0% (Lower River region) to 12.3% (North Bank region) of children below age 10 years (trachomatous inflammation, 2006) ²
2008*	Multiple locations	children	10.4	10.4% of children below age 10 years (two regions, 2008 publication) ³
2010*	Multiple locations	children	15.4	15.4% of rural children ages 1 to 9 years in endemic villages (follicular trachoma, 2010 publication) ⁴
2010*	Multiple locations	children	6.7	6.7% of children ages 0 to 5 years (PCR, 48 communities) ⁵
2012	Brikama	children	3.8	3.8% of urban children ages 1 to 9 years, in Brikama (follicular trachoma, 2012) ⁶
2013*	Multiple locations	children	1	1.0% of children ages 0 to 5 years (PCR, 216 communities) ⁷
1996	Multiple locations	general population	3	3.0% of the general population - 5.9% of children ages 0 to 9; trichiasis in 3.3% and corneal opacities in 0.9% of persons over age 30 (1996) ⁸
2014	Multiple locations	general population	1.6	Active trachoma was present in 1.6% of individuals (Upper River and Lower River regions) ⁹

* indicates publication year (not necessarily year of survey)

26,240 cases of active trachoma were estimated in 2003.

The principal insect vector in Gambia is *Musca sorbens*. ¹⁰

References

1. [PLoS One 2010 Jun 11;5\(6\):e11075.](#)
2. [PLoS Negl Trop Dis 2009 Dec 22;3\(12\):e573.](#)
3. [Trans R Soc Trop Med Hyg 2008 Dec ;102\(12\):1255-62.](#)
4. [PLoS Negl Trop Dis 2010 Oct 05;4\(10\)](#)
5. [PLoS Negl Trop Dis 2010 Nov 02;4\(11\):e861.](#)
6. [Trop Med Int Health 2013 Nov ;18\(11\):1344-52.](#)
7. [PLoS Negl Trop Dis 2013 ;7\(7\):e2347.](#)
8. [Br J Ophthalmol 1998 Aug ;82\(8\):930-3.](#)
9. [Sci Rep 2017 Nov 08;7\(1\):15040.](#)
10. [Lancet 2004 Apr 03;363\(9415\):1093-8.](#)

Trichinosis

Agent	PARASITE - Nematoda. <i>Trichinella spiralis</i> (occasionally <i>T. nativa</i> , <i>T. britovi</i> , <i>T. pseudospiralis</i> , <i>T. nelsoni</i> , et al)
Reservoir	Wild carnivore, Omnivore, Marine mammal
Vector	None
Vehicle	Meat
Incubation Period	10d - 20d (range 1w - 10w)
Diagnostic Tests	Identification of larvae in tissue. Serology.
Typical Adult Therapy	Albendazole 400 mg PO BID X 14d. OR Mebendazole 200 to 400 mg PO tid X 3 days, then 400 to 500 mg PO. tid X 10 days. Give with prednisone 50 mg PO daily X 3 to 5 days (then 'taper' dosage)
Typical Pediatric Therapy	Albendazole 7 mg/kg BID X 14 d. OR Mebendazole 200 to 400 mg PO tid X 3 days, then 400 to 500 mg PO. tid X 10 days. Give with prednisone 50 mg PO daily X 3 to 5 days (then 'taper' dosage)
Clinical Hints	- Onset 1 to 4 weeks following ingestion of undercooked meat - Early diarrhea and vomiting - Subsequent myalgia, facial edema and eosinophilia - Symptoms may persist for two months - Reported case-fatality rate for symptomatic infection is 2%
Synonyms	Haycocknema, Trichinellose, Trichinellosis, Trichinose, Trikinose, Triquiniasis, Triquonosis. ICD9: 124 ICD10: B75

Trichinosis in Gambia

No cases were reported in 1997.

Trichomoniasis

Agent	PARASITE - Protozoa. Metamonada, Parabasala, Trichomonadea. Flagellate: <i>Trichomonas vaginalis</i>
Reservoir	Human
Vector	None
Vehicle	Sexual contact
Incubation Period	4d - 28d
Diagnostic Tests	Microscopy of vaginal discharge. ELISA, culture, antigen detection tests available. Nucleic acid amplification.
Typical Adult Therapy	Metronidazole or Tinidazole 2g PO as single dose to both sexual partners
Typical Pediatric Therapy	Metronidazole 5 mg/kg PO TID X 7d. OR Tinidazole 50 mg/kg PO X 1 (maximum 2 grams)
Clinical Hints	- Vaginal pruritus, erythema and thin or frothy discharge - Mild urethritis may be present in male or female
Synonyms	Pentatrichomonas, Tetratrichomonas, Trichomonaden, Trichomonas, Trichomonas vaginalis, Trichomoniasis, Tritrichomonas. ICD9: 131 ICD10: A59

Trichostrongyliasis

Agent	PARASITE - Nematoda. Secernentea: <i>Trichostrongylus colubriformis</i> , <i>T. orientalis</i> , <i>T. probolurus</i>
Reservoir	Herbivore
Vector	None
Vehicle	Water, Food, Vegetation, Contact
Incubation Period	21d
Diagnostic Tests	Identification of ova in stool or duodenal aspirate.
Typical Adult Therapy	Albendazole 400 mg PO X 1. OR Pyrantel pamoate 11 mg/kg (max 1g) PO once. OR Mebendazole 100 mg PO BID X 7d
Typical Pediatric Therapy	As for adult
Clinical Hints	- Diarrhea, abdominal pain and weight loss - Eosinophilia is often present - Infestation may persist for years - Fatality and sequelae are not reported
Synonyms	Haemonchus, Marshallagia, Ostertagia, Trichostrongylus. ICD9: 127.6 ICD10: B81.2

Trichuriasis

Agent	PARASITE - Nematoda. <i>Trichuris trichiura</i>
Reservoir	Human
Vector	None
Vehicle	Soil ingestion, Sexual contact, Flies
Incubation Period	2m - 2y
Diagnostic Tests	Stool microscopy or visualization of adult worms (adults are approximately 3 cm long).
Typical Adult Therapy	Mebendazole 100 mg PO BID X 3d. OR Albendazole 400 mg PO daily X 3 to 7 days OR Ivermectin 200 mg/kg PO daily X 3 days
Typical Pediatric Therapy	Albendazole 200 mg PO single dose OR Mebendazole 100 mg BID X 3 d (> age 2). OR Ivermectin 200 mg/kg PO daily X 3 days
Clinical Hints	- Abdominal pain, bloody diarrhea - Rectal prolapse or intestinal obstruction are occasionally encountered - The parasite may survive for as long as five years in the human host
Synonyms	Trichocephaliasis, <i>Trichuris trichiura</i> , Tricuriasis, Whipworm. ICD9: 127.3 ICD10: B79

Trichuriasis in Gambia

Prevalence surveys

Years	Study Group	%	Notes
1995*	general population	2.4	2.4% of individuals in rural Gambia (1995 publication) ¹

* indicates publication year (not necessarily year of survey)

References

1. [East Afr Med J 1995 Aug ;72\(8\):527-30.](#)

Tropical phagedenic ulcer

Agent	BACTERIUM Mixed infection by <i>Fusobacterium</i> species and <i>Borrelia</i>
Reservoir	Human
Vector	None
Vehicle	Direct inoculation (skin trauma)
Incubation Period	Unknown
Diagnostic Tests	Wound smear suggestive of fusobacterial infection.
Typical Adult Therapy	Systemic Penicillin G . Excision/debridement as necessary
Typical Pediatric Therapy	As for adult
Clinical Hints	- A deep, painful, foul-smelling ulcer (usually of the leg) with undermined edges - May be complicated by secondary infection
Synonyms	Acute phagadenic ulcer, Aden ulcer, Delagoa sore, Malabar ulcer, Naga sore, Rhodesian sore, Tropical sloughing phagedaena. ICD9: 682.7 ICD10: A69.8,L97

Tropical pulmonary eosinophilia

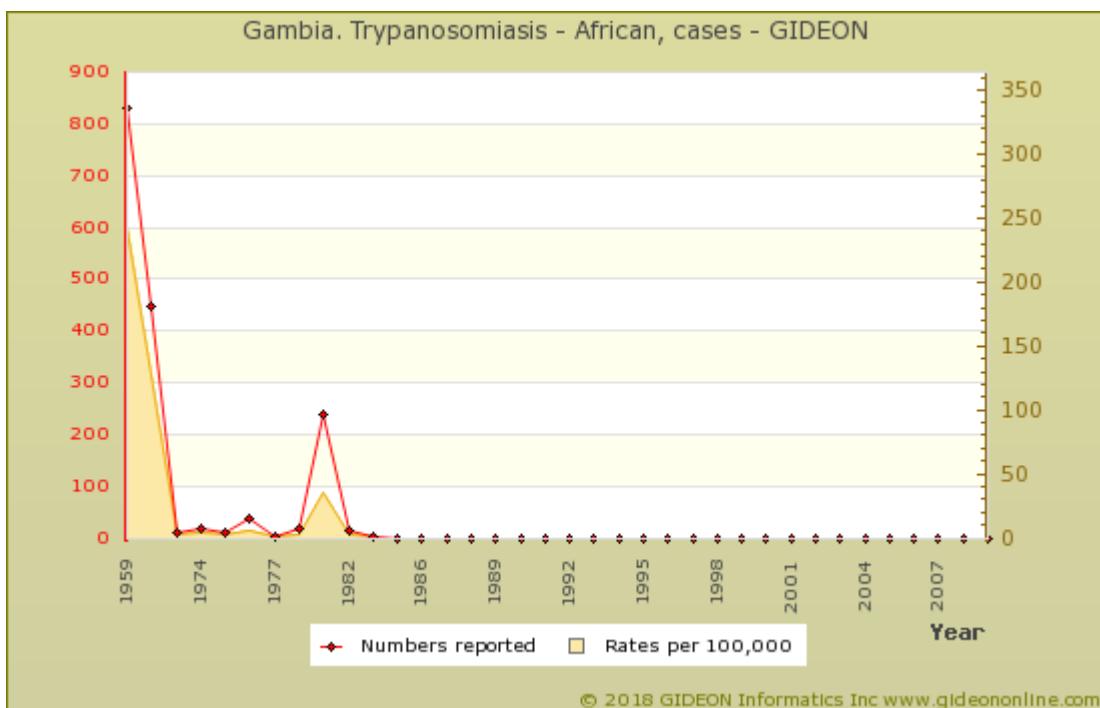
Agent	UNKNOWN Possibly related to filarial infection
Reservoir	Unknown
Vector	Unknown
Vehicle	Unknown
Incubation Period	Unknown
Diagnostic Tests	Antifilarial antibodies may be present. Response to therapeutic trial.
Typical Adult Therapy	Diethylcarbamazine 2 mg/kg PO TID X 21d
Typical Pediatric Therapy	As for adult
Clinical Hints	- Acquired in countries known to be endemic for filariasis - Chronic cough, wheezing and dyspnea - Reticular-nodular pulmonary infiltrates and eosinophilia (over 3,000 per cu. mm.)
Synonyms	

Trypanosomiasis - African

Agent	PARASITE - Protozoa. Euglenozoa, Kinetoplastidea. Flagellate: <i>Trypanosoma (Trypanozoon) brucei gambiense</i> and <i>T. b. rhodesiense</i>
Reservoir	Human, Deer, Wild carnivore, Cattle
Vector	Tsetse fly (<i>Glossina</i> spp.)
Vehicle	None
Incubation Period	3d - 21d (acute illness)
Diagnostic Tests	Identification of protozoa in CSF, blood, lymph node aspirate. Serology. Nucleic acid amplification.
Typical Adult Therapy	Early: Pentamidine 4 mg/kg IM qod X 10 doses. OR Suramin 1g IV days 1, 3, 7, 14, 21 (after test dose 100 mg) OR Eflornithine (T. gambiense only) 100 mg q6h IV X 14 d; then 75 mg/kg PO X 21-30 d. Late + CNS disease: Melarsoprol
Typical Pediatric Therapy	Early: Pentamidine 4 mg/kg IM qod X 10 doses. OR Suramin 20 mg/kg IV days 1, 3, 7, 14, 21 (after test dose 20 mg) Late + CNS: Melarsoprol
Clinical Hints	- Cutaneous chancre, myalgia, arthralgia, lymphadenopathy and recurrent fever - Mental changes, sensory disorders and heart failure - Disease due to <i>Trypanosoma brucei rhodesiense</i> is more rapidly progressive and virulent than that due to <i>T.b. gambiense</i>
Synonyms	African sleeping sickness, African trypanosomiasis, Gambian fever, Schlafkrankheit, Trypanosoma brucei, Trypanosoma congolense, Trypanosoma evansi, Trypanosoma lewisi, Trypanosomiasis, afrikanische, U.T.I., UTI. ICD9: 086.3,086.4,086.5 ICD10: B56

Trypanosomiasis - African in Gambia

100,000 persons are considered at risk.



Graph: Gambia. Trypanosomiasis - African, cases

Cross-border events

Years	Acquired by **	Originated in **	Setting	Cases	Notes
1975	Sweden	Gambia	travel	1	1

** Country or Nationality

The endemic species is *Trypanosoma brucei gambiense*.

- Infection by *Trypanosoma lewisi* has been confirmed in a Gambian infant (2006 publication) [2](#) [3](#)

The local vectors are *Glossina morsitans* and *Glossina palpalis*. [4](#)

Prevalence surveys

Years	Region	Study Group	%	Notes
2008*	Central River Division	horses	18	18% of working horses and donkeys in Central River Division (2008 publication) 5

* indicates publication year (not necessarily year of survey)

References

- Scand J Infect Dis 1977 ;9(2):154-6.
- Trends Parasitol 2009 Mar ;25(3):107-8.
- PLoS Med 2006 Sep ;3(9):e355.
- Parasitology 1991 Jun ;102 Pt 3:371-7.
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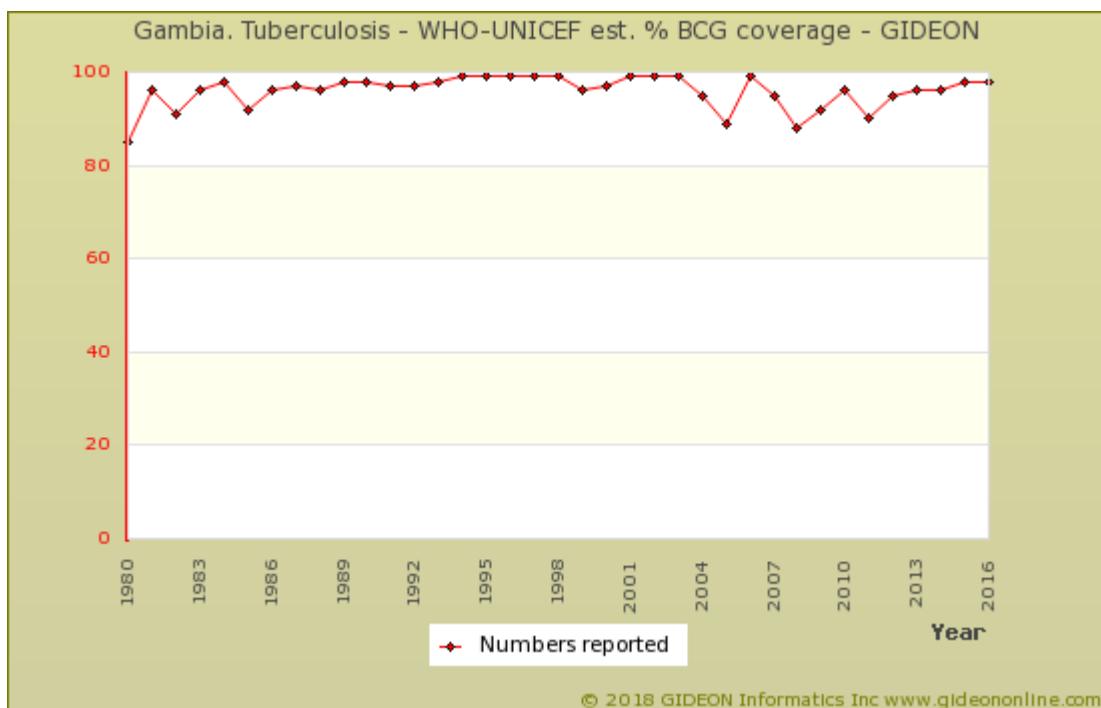
Tuberculosis

Agent	BACTERIUM. Actinomycetes, <i>Mycobacterium tuberculosis</i> An aerobic acid-fast bacillus
Reservoir	Human, Cattle
Vector	None
Vehicle	Air, Dairy products, Respiratory or pharyngeal acquisition
Incubation Period	4w - 12w (primary infection)
Diagnostic Tests	Microscopy. Culture. Nucleic acid amplification. Inform laboratory when this diagnosis is suspected.
Typical Adult Therapy	Respiratory isolation. Typical pulmonary infection is treated with 6 months of Isoniazid , Rifampin & Pyrazinamide MDR tuberculosis - 5 drugs (including pyrazinamide if possible) initially, followed by 4 drugs.
Typical Pediatric Therapy	As for adult
Vaccine	BCG vaccine
Clinical Hints	- Cough, "night sweats" and weight loss - Most infections represent reactivation of old foci in lungs, brain, bone, kidneys etc - Often presents as prolonged fever (FUO) or infection of bone, meninges, kidneys or other organs
Synonyms	Consumption, <i>Mycobacterium africanum</i> , <i>Mycobacterium bovis</i> , <i>Mycobacterium caprae</i> , <i>Mycobacterium orygis</i> , <i>Mycobacterium tuberculosis</i> , Oryx bacillus, Phthisis, TB, TB meningitis, Tuberculose, Tuberculose miliar, Tuberculosis, Tuberculous meningitis, Tuberkulose, White plague. ICD9: 010,012,013,014,015,016,017,018 ICD10: A15,A16,A17,A18,A19

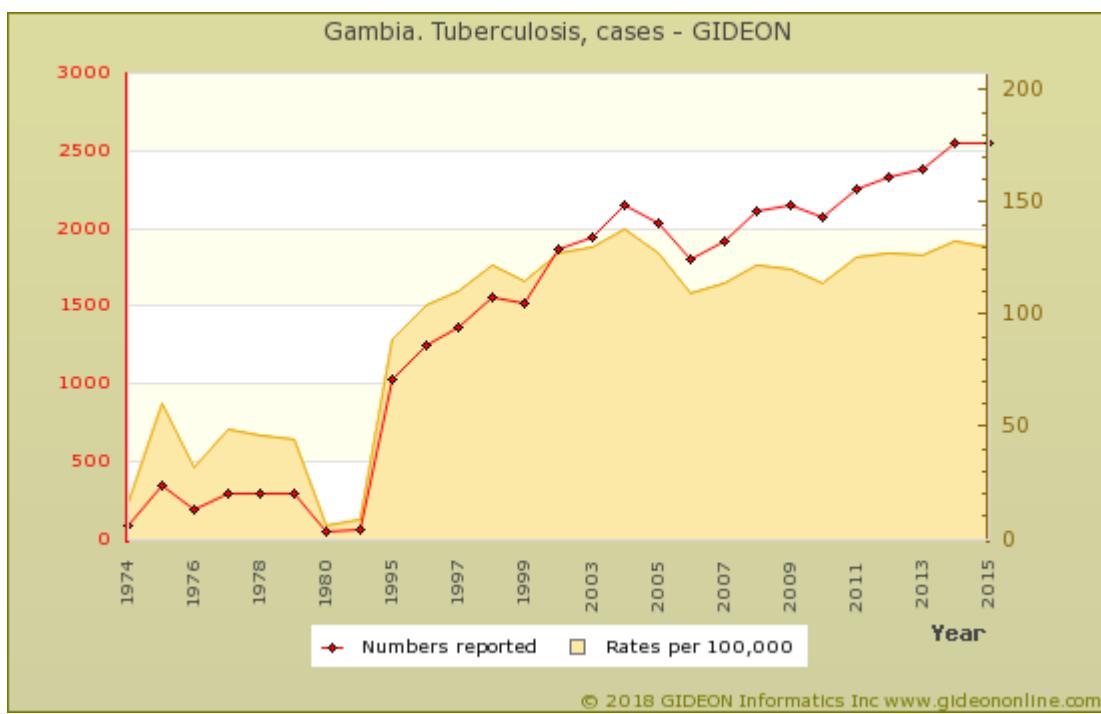
Tuberculosis in Gambia

Vaccine Schedule:

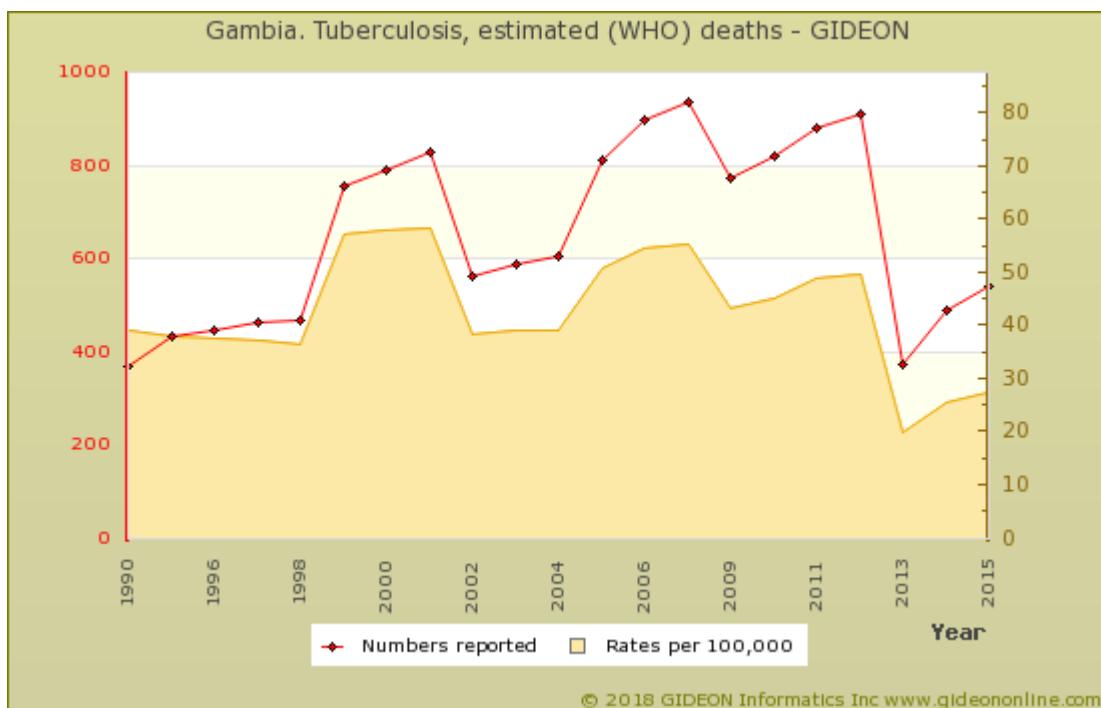
BCG - birth
 DTwP - 18-24 months; booster
 DTwPHibHepB - 2,3,4 months
 HepB - birth
 HPV - 9-13 years; +6 months
 IPV - 4 months
 Measles - 9,18 months
 OPV - birth 2, 3, 4, 9,18 months
 Pneumo conj - 2,3,4 months
 Rotavirus - 2,3,4 months
 TT - 1st contact; +1, +6 months; +1, +2 year
 YF - 9 months



Graph: Gambia. Tuberculosis - WHO-UNICEF est. % BCG coverage



Graph: Gambia. Tuberculosis, cases



Graph: Gambia. Tuberculosis, estimated (WHO) deaths

Prevalence surveys

Years	Region	Study Group	%	Notes
1998 - 2007	Farafenni	deaths	10.2	10.2% of deaths in the Farafenni Health and Demographic Surveillance area (pulmonary tuberculosis, 1998 to 2007) ¹
1998 - 2007	North Bank	deaths	10.2	Pulmonary tuberculosis accounted for 10.2% of deaths ²

Only 4% of *Mycobacterium tuberculosis* isolates were resistant to one or more drugs as of 2003. ³

As many as 20% of all tuberculosis cases in Gambia are caused by *Mycobacterium africanum* (2002 to 2009) ⁴

6.1% of tuberculosis patients were found to be HIV-positive, vs. 3.3% of controls (2006 publication) ⁵

- 8.3% of tuberculosis patients were found to be HIV-positive (2003 publication) ⁶

References

1. Glob Health Action 2014 ;7:25598.
2. Glob Health Action 2014 ;7:25598.
3. Int J Tuberc Lung Dis 2003 Apr ;7(4):390-3.
4. Emerg Infect Dis 2013 Oct ;19(10):1598-1604.
5. BMC Public Health 2006 Jun 19;6:156.
6. Int J Tuberc Lung Dis 2003 Oct ;7(10):942-7.

Tungiasis

Agent	PARASITE - Insecta Siphonaptera (Flea), Tungidae: <i>Tunga penetrans</i> and <i>T. trimamillata</i> ("sand fleas")
Reservoir	Pig, Dog, Various other mammals
Vector	None
Vehicle	Contact
Incubation Period	8d - 12d
Diagnostic Tests	Identification of parasite.
Typical Adult Therapy	Extraction of parasite Ivermectin has been advocated in some publications.
Typical Pediatric Therapy	As for adult
Clinical Hints	- Painful papule or nodule, usually on the feet - may be multiple - Onset 1 to 2 weeks after walking on dry soil - Secondary infections and tetanus are reported
Synonyms	Bicho de pe, Chica, Chigger, Chigoe flea, Jigger, Nigua, Puce-chique, Tu, <i>Tunga penetrans</i> , <i>Tunga trimamillata</i> , Tungosis. ICD9: 134.1 ICD10: B88.1

Typhoid and enteric fever

Agent	BACTERIUM. <i>Salmonella</i> serotype Typhi (certain other <i>Salmonella</i> species cause 'paratyphoid' fever) A facultative gram-negative bacillus
Reservoir	Human
Vector	None
Vehicle	Fecal-oral, Food, Fly, Water
Incubation Period	15d - 21d (range 5d - 34d)
Diagnostic Tests	Culture (blood, urine, sputum culture). Stool usually negative unless late, untreated infection. Serology.
Typical Adult Therapy	Ceftriaxone 2 g IV q12h to q 24h X 5 to 7d. OR Azithromycin 1 gram PO on day 1; then 500 mg days 2 to 7. Fluoroquinolones resistance common - not recommended for empiric therapy. Add corticosteroids if evidence of shock or decreased mental status.
Typical Pediatric Therapy	Ceftriaxone 50 to 80 mg/kg IV daily X 5 to 7d. OR Azithromycin 15 mg/kg PO on day 1; then 7.5 mg/kg on days 2 to 7.
Vaccines	Typhoid - injectable vaccine Typhoid - oral vaccine
Clinical Hints	- Transient diarrhea followed by fever, splenomegaly and obtundation - Rose spots (during second week of illness), leukopenia and relative bradycardia are common - Intestinal perforation or hemorrhage may occur in third to fourth week of illness - Case-fatality rates are 0.8% (treated) to 15% (untreated)
Synonyms	Abdominal typhus, Abdominaltyphus, Buiktyphus, Enteric fever, Febbre tifoide, Febbre tifoidea, Fiebre tifoidea, Paratifoidea, Paratyfus, Paratyphoid, <i>Salmonella</i> serotype Typhi, Tyfoid, Typhoid, Typhoide. ICD9: 002 ICD10: A01

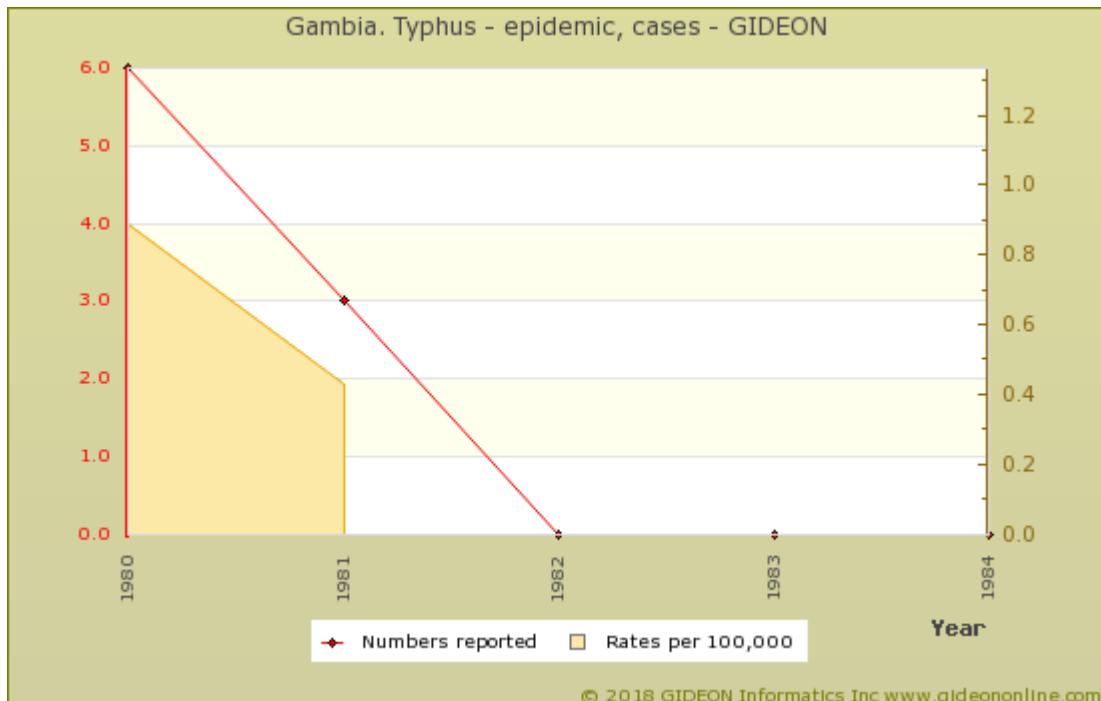
Typhus - endemic

Agent	BACTERIUM. <i>Rickettsia typhi</i>
Reservoir	Rat
Vector	Flea (<i>Xenopsylla</i> or <i>Nosopsyllus</i> spp.)
Vehicle	None
Incubation Period	10d - 12d (range 4d - 18d)
Diagnostic Tests	Serology. Identification of rickettsiae in smear or culture of skin lesions. Nucleic acid amplification.
Typical Adult Therapy	Doxycycline 100 mg BID X 7d
Typical Pediatric Therapy	Doxycycline 2 mg/kg BID X 7d (maximum 200 mg/day); or Chloramphenicol 12.5 mg/kg QID X 7d
Clinical Hints	<ul style="list-style-type: none">- Fever, headache and myalgia- Truncal maculopapular rash (present in 60%) appears on days 3 to 5 and persists for 4 to 8 days- Fever resolves after 12 to 16 days- Case fatality rate (untreated) is 2%
Synonyms	Endemic typhus, Murine typhus, Rickettsia typhi, Ship typhus, Tifo murino, Tifus pulgas, Vlektyphus. ICD9: 081.0 ICD10: A75.2

Typhus - epidemic

Agent	BACTERIUM. <i>Rickettsia prowazekii</i>
Reservoir	Human, Flying squirrel (<i>Glaucomys volans volans</i> , in the United States)
Vector	Louse (<i>Pediculus</i>), Squirrel flea
Vehicle	None
Incubation Period	10d - 14d (range 5d - 23d)
Diagnostic Tests	Serology. Identification of rickettsiae in smear or culture of skin lesions. Nucleic acid amplification.
Typical Adult Therapy	Doxycycline 100 mg PO BID X 3 to 5d. OR Chloramphenicol 500 mg QID X 3 to 5d
Typical Pediatric Therapy	Doxycycline 2 mg/kg PO BID X 3 to 5d (maximum 200 mg/day). OR Chloramphenicol 10 mg/kg PO QID X 3 to 5d
Clinical Hints	- Fever, headache and myalgia - Truncal maculopapular rash appears on days 4 to 7 - Encephalopathy or myocarditis may ensue; - Fever resolves after 2 weeks, but convalescence is prolonged - Case-fatality rate (untreated) is 10% to 20%
Synonyms	Camp fever, Epidemic typhus, Jail fever, Red louse disease, Rickettsia prowazekii, Ship fever, Shop typhus, Sutama, Sylvatic epidemic typhus, Tifus piojos, Tobardillo. ICD9: 080 ICD10: A75.0

Typhus - epidemic in Gambia



Graph: Gambia. Typhus - epidemic, cases

Notes:

Individual years:
1980 - None fatal.

Urinary tract infection

Agent	BACTERIUM OR FUNGUS. <i>Escherichia coli</i> , other facultative gram negative bacilli, enterococci, et al
Reservoir	Human
Vector	None
Vehicle	Endogenous
Incubation Period	Variable
Diagnostic Tests	Urine culture and leucocyte count.
Typical Adult Therapy	Antimicrobial agent(s) directed at known or likely pathogen
Typical Pediatric Therapy	As for adult
Clinical Hints	- Fever, dysuria, frequency, flank pain and vomiting - Infection in children or men - and infection which relapses in women - may warrant radiological studies to rule out underlying obstruction or calculus
Synonyms	Cistite, Cistitis, Cystite, Cystitis, Pielite, Pielitis, Pielonefrite, Pielonefritis, Prostatite, Pyelitis, Pyelonephrite, Pyelonephritis, Trigonitis, Tubulointerstitial nephritis, Urethritis, Uretrite, Zystitis. ICD9: 791.9,136.9,599.0,590,601.0 ICD10: N10,N30,N41

Vaccinia and cowpox

Agent	VIRUS - DNA. Poxviridae, Orthopoxvirus. Cowpox virus
Reservoir	Cattle, Cat Rodent
Vector	None
Vehicle	Cattle, Cat
Incubation Period	2d - 4d
Diagnostic Tests	Viral isolation from skin exudate or biopsy. Nucleic acid amplification. Biosafety level 3.
Typical Adult Therapy	Secretion precautions; supportive. In severe cases, Tecovirimat , 400 to 600 mg PO OD X 14 d.
Typical Pediatric Therapy	As for adult
Vaccine	Vaccinia immune globulin
Clinical Hints	- Vesicles or pustules (usually on hand) progressing to crusts - Painful regional lymphadenopathy - Follows contact with infected animals or smallpox vaccination
Synonyms	Akhmeta poxvirus, Aracatuba, Buffalopox, Camelpox, Cantagalo, Cowpox, Passatempo, Vaccinia, Vaiolo. ICD9: 051.0 ICD10: B08.0

Varicella

Agent	VIRUS - DNA. Herpesviridae, Alphaherpesvirinae: Human Herpesvirus 3 (Varicella-zoster virus)
Reservoir	Human
Vector	None
Vehicle	Air, Contact, Breastfeeding, Respiratory or pharyngeal acquisition
Incubation Period	2w - 3w
Diagnostic Tests	Viral culture (vesicles). Serology. Nucleic acid amplification.
Typical Adult Therapy	Respiratory isolation. Severe/complicated cases: Acyclovir 10 to 12 mg/kg IV q8h X 7d Adolescent / young adult: 800 mg PO X 5 per day X 7 d. Alternatives: Valacyclovir 1 g PO TID; or Famciclovir 500 mg PO TID
Typical Pediatric Therapy	Respiratory isolation. Acyclovir (severe/complicated cases) 150 mg/sq m IV q8h X 7d
Vaccines	Varicella vaccine Varicella-Zoster immune globulin
Clinical Hints	- Cough and fever followed by a pruritic papulovesicular rash after 1 to 2 days - Pneumonia is often encountered - Case fatality rate is 4.3 per 100,000 cases (7% in immune-suppressed patients)
Synonyms	Chickenpox, Lechina, Skoldkopper, Vannkopper, Varicela, Varizellen, Vattenkopp, Waterpokken, Windpocken. ICD9: 052 ICD10: B01

Vibrio parahaemolyticus infection

Agent	BACTERIUM <i>Vibrio parahaemolyticus</i> A facultative gram-negative bacillus
Reservoir	Marine water, Seafood, Fish
Vector	None
Vehicle	Seafood
Incubation Period	10h - 20h (range 2h - 4d)
Diagnostic Tests	Stool culture - alert laboratory when this organism is suspected.
Typical Adult Therapy	Supportive
Typical Pediatric Therapy	As for adult
Clinical Hints	- Onset 4 to 24 hours following ingestion of seafood (often steamed crabs) - Vomiting and explosive diarrhea - Diarrhea may persist for 7 to 10 days - Case fatality rate is 0.1%
Synonyms	Vibrio parahaemolyticus. ICD9: 005.4 ICD10: A05.3

Wesselsbron

Agent	VIRUS - RNA. Flaviviridae, Flavivirus: Wesselsbron virus
Reservoir	Sheep, Cattle
Vector	Mosquito (<i>Aedes</i> sp., <i>Anopheles gambiae</i> , <i>An. pharoensis</i> , <i>Culex telesilla</i> , <i>Cx. univittatus</i> , <i>Mansonia uniformis</i>)
Vehicle	None
Incubation Period	2d - 4d
Diagnostic Tests	Viral culture (blood, throat). Serology. Biosafety level 3.
Typical Adult Therapy	Supportive
Typical Pediatric Therapy	As for adult
Clinical Hints	- Fever, myalgia, arthralgia, dermal hyperesthesia - Maculopapular rash and leukopenia - Illness lasts up to 10 days - No fatalities reported
Synonyms	

Whipple's disease

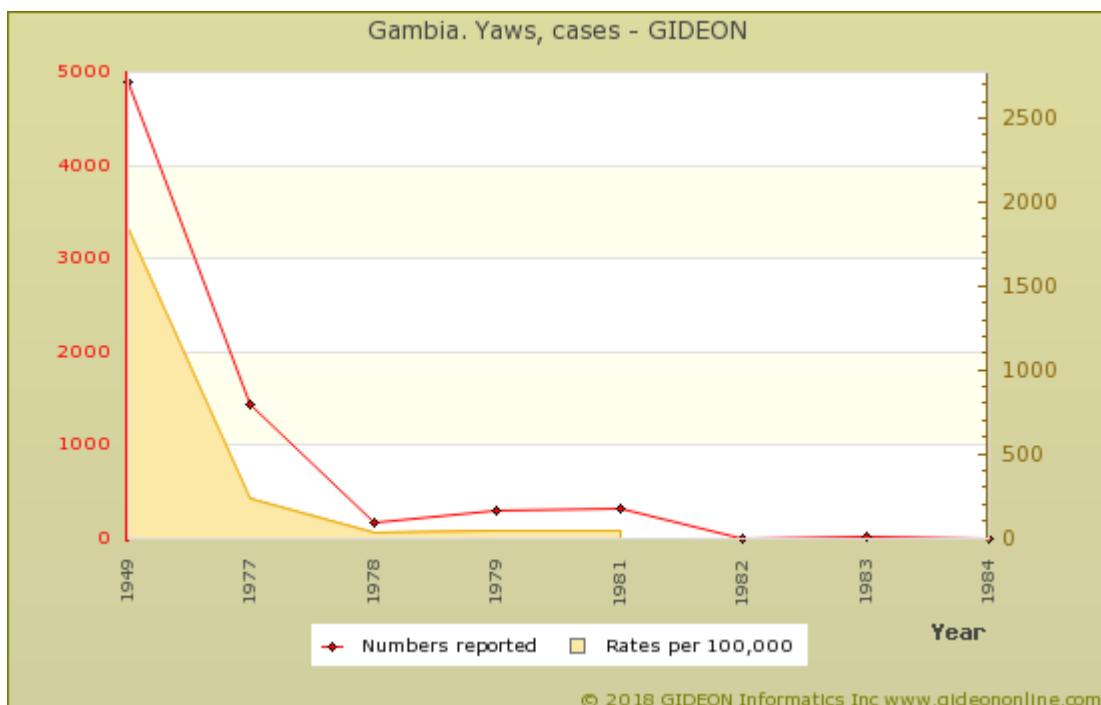
Agent	BACTERIUM. Actinomycetes, <i>Tropheryma whipplei</i> A gram positive bacillus
Reservoir	Unknown
Vector	None
Vehicle	None
Incubation Period	Unknown
Diagnostic Tests	Identification of inclusions in lamina propria (other tissues). Tissue culture. Nucleic acid amplification.
Typical Adult Therapy	<p>Ceftriaxone 2.0 g IV daily X 14 days. OR Penicillin G 12 million u + Streptomycin 1 g daily X 14d. Then, Sulfamethoxazole / Trimethoprim X 1 year</p> <p>OR: Doxycycline 100 mg PO BID + Hydroxychloroquine X 1 year, followed by Doxycycline for life</p>
Typical Pediatric Therapy	Disease is rarely, if ever, encountered in children
Clinical Hints	- Chronic multisystem disorder characterized by weight loss, diarrhea, abdominal and joint pain - Dermal hyperpigmentation, fever and lymphadenopathy are often present - <i>Tropheryma whipplei</i> has recently been recovered from the blood of patients with fever, headache or cough.
Synonyms	Intestinal lipodystrophy, Lipophagic granulomatosis, Mesenteric chyladenectasis, Steatorrhea arthropericarditica, <i>Tropheryma whipplei</i> . ICD9: 040.2 ICD10: K90.8

Yaws

Agent	BACTERIUM. <i>Treponema pallidum</i> subsp. <i>pertenue</i> : microaerophilic gram-negative spirochete
Reservoir	Human, Non-human primate
Vector	None
Vehicle	Contact, Insect bite, Fomite
Incubation Period	3w - 5w (range 10d - 12w)
Diagnostic Tests	VDRL and antitreponemal tests (FTA, MHTP) positive as in syphilis.
Typical Adult Therapy	Azithromycin 30 mg/kg p.o. as single dose OR Benzathine Penicillin G 1.2 million units IM as single dose.
Typical Pediatric Therapy	Azithromycin 30 mg/kg p.o. as single dose OR Benzathine Penicillin G : Weight <14kg: 300,000u IM Weight 14 to 28kg: 600,000u IM Weight >28kg - 1.2 million u IM
Clinical Hints	- Dermal papillomata, periostitis and soft tissue suppuration - Regional lymphadenopathy is common - Relapses often seen during the initial 5 years of illness - Gummata and hyperkeratotic plaques appear in advanced stages of the infection
Synonyms	Anakhre, Bouba, Breda's disease, Charlouis' Disease, Frambesia, Gangosa, Goundou, Granuloma tropicum, Gundo, Henpue, Henpuye, Ogo Mutilans, Parangi, Patek, Pian, <i>Treponema pallidum</i> subsp <i>pertenue</i> . ICD9: 102 ICD10: A66

Yaws in Gambia

Yaws is endemic to all areas of Gambia.



Graph: Gambia. Yaws, cases

Notes:

1. Historical data from reference ¹

References

1. Bull World Health Organ 1953 ;8(1-3):129-82; discussion 205-10.

Yellow fever

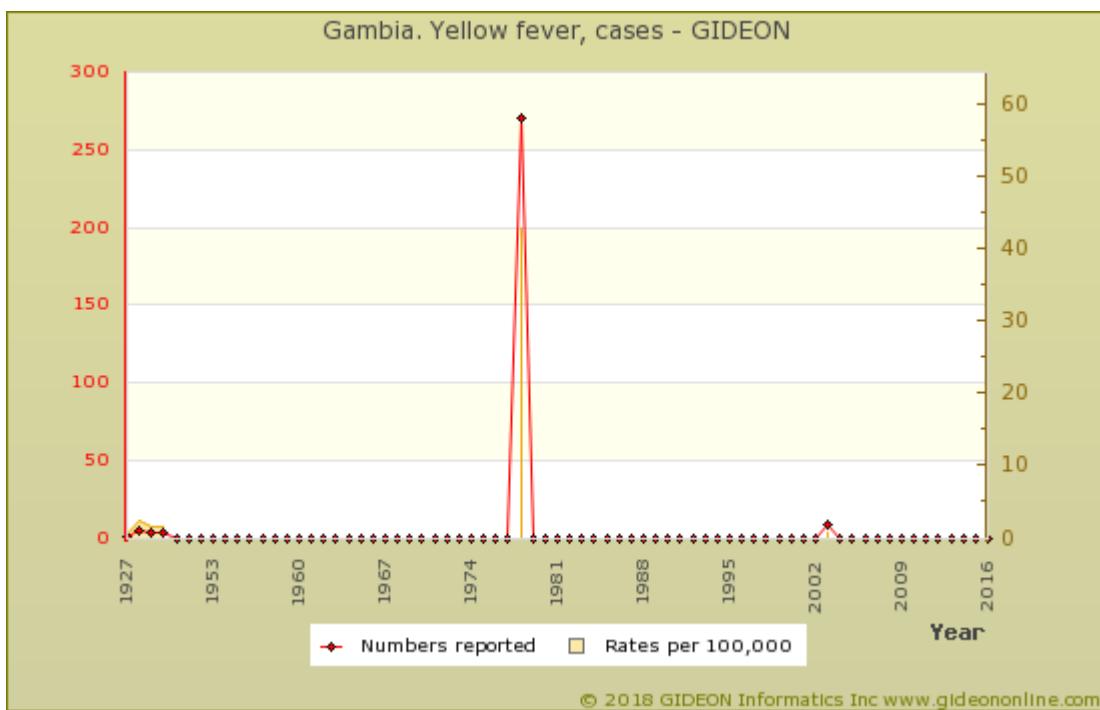
Agent	VIRUS - RNA. Flaviviridae, Flavivirus: Yellow fever virus
Reservoir	Human, Mosquito, Monkey, Marsupial
Vector	Mosquito (<i>Stegomyia (Aedes)</i> , <i>Haemagogus</i> , <i>Sabettus</i>)
Vehicle	None
Incubation Period	3d - 6d (range 2.5d - 14d)
Diagnostic Tests	Viral culture (blood, liver). Serology. Nucleic acid amplification. Biosafety level 3.
Typical Adult Therapy	Supportive
Typical Pediatric Therapy	As for adult
Vaccine	Yellow fever vaccine
Clinical Hints	- Headache, backache, vomiting, myalgias, jaundice and hemorrhagic diathesis - Relative bradycardia and leukopenia are present - Illness is often biphasic - Case fatality rate is 10% to 60%, occurring within 7 days of disease onset
Synonyms	Bulan fever, Febbre gialla, Febre amarela, Fever of Fernando Po, Fever of the blight of Benin, Fiebre amarilla, Fievre jaune, Gelbfieber, Gele koorts, Gul feber, Gula febern, Inflammatory fever, Kendal's disease, Magdalena fever, Maladie de Siam, Pest of Havana, Stranger's fever. ICD9: 060 ICD10: A95

Yellow fever in Gambia

Gambia is designated a COUNTRY WITH RISK OF YELLOW FEVER VIRUS TRANSMISSION.

Yellow fever outbreaks were recorded in 1768, 1837, 1842, 1845, 1852, 1860 and 1878.

No cases have been reported since 1979; however, potential for disease exists in Upper River division.



Graph: Gambia. Yellow fever, cases

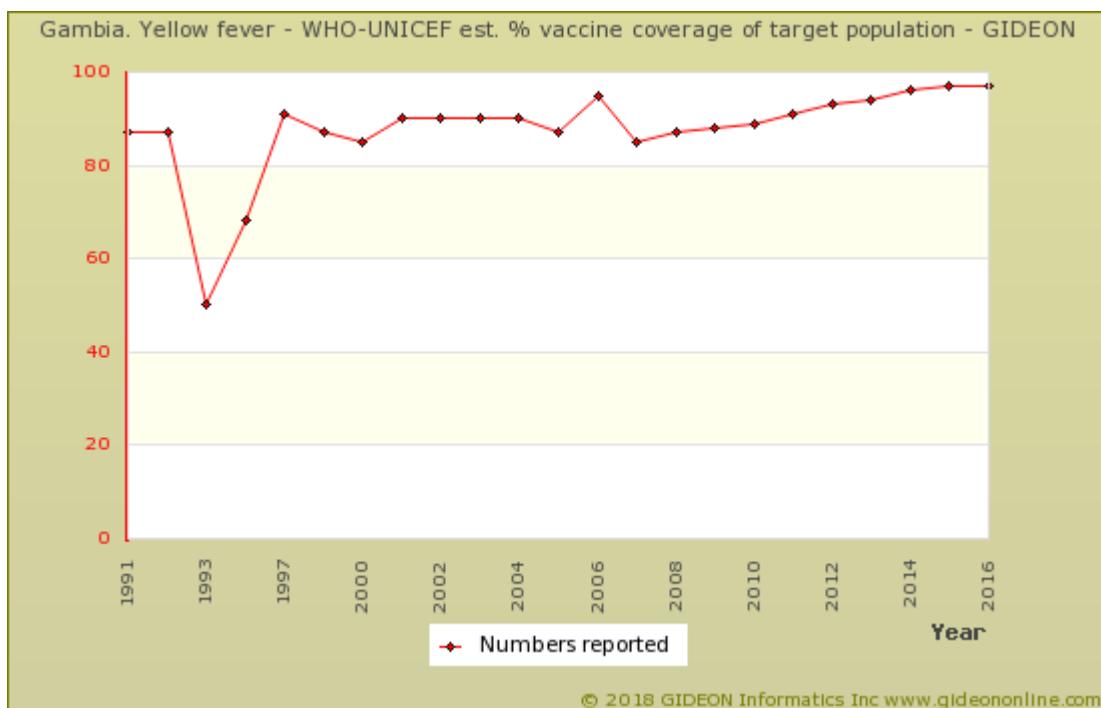
Cross-border events

Years	Acquired by **	Originated in **	Setting	Cases	Deaths	Notes
2001	Belgium	Gambia	travel	1	1	1
2010	Senegal	Gambia	fishermen	2		Two Senegalese fishermen acquired yellow fever in Gambia. 2 3

** Country or Nationality

Vaccine Schedule:

BCG - birth
 DTwP - 18-24 months; booster
 DTwPHibHepB - 2,3,4 months
 HepB - birth
 HPV - 9-13 years; +6 months
 IPV - 4 months
 Measles - 9,18 months
 OPV - birth 2, 3, 4, 9,18 months
 Pneumo conj - 2,3,4 months
 Rotavirus - 2,3,4 months
 TT - 1st contact; +1, +6 months; +1, +2 year
 YF - 9 months



Graph: Gambia. Yellow fever - WHO-UNICEF est. % vaccine coverage of target population

Proof of vaccination **IS** required for travelers from a country with risk of YFV transmission and ≥ 9 months of age

- CDC (The United States Centers for Disease Control) recommends vaccination for all travelers ≥ 9 months of age (arriving from any country).

Notable outbreaks

Years	Region	Cases	Deaths	Notes
1978 - 1979	Southeast Region	8,400	1,700 5	Outbreak ascribed to extensive breeding of <i>Aedes aegypti</i> in southeastern Senegal. 4

References

1. Clin Infect Dis 2002 Nov 15;35(10):e113-6.
2. Wkly Epidemiol Rec 2010 Oct 08;85(41):401-2.
3. ProMED <promedmail.org> archive: 20101006.3615
4. Am J Trop Med Hyg 1980 Sep ;29(5):912-28.
5. Am J Trop Med Hyg 1980 Sep ;29(5):929-40.

Yersiniosis

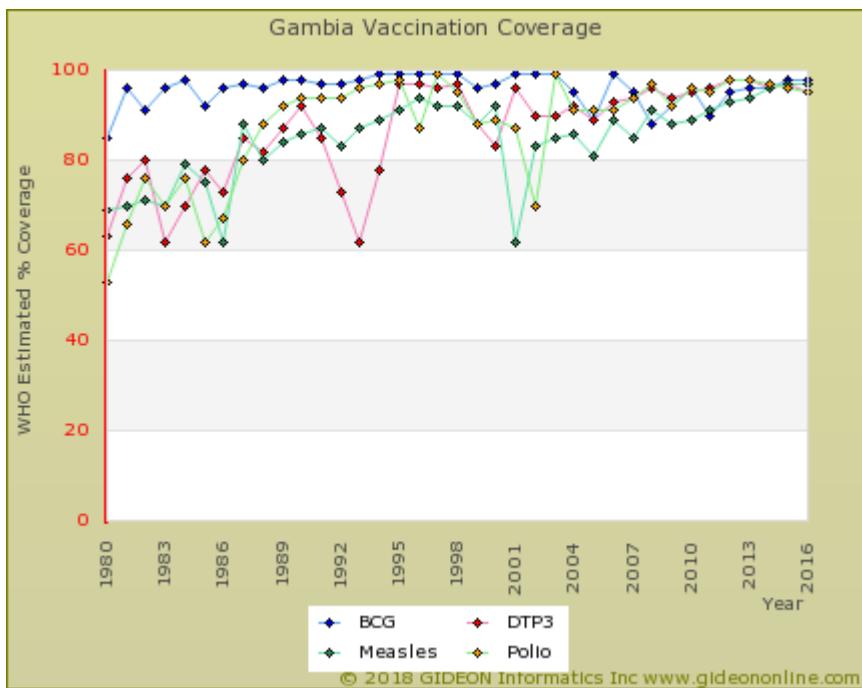
Agent	BACTERIUM. <i>Yersinia enterocolitica</i> and <i>Yersinia pseudotuberculosis</i> A facultative gram-negative bacillus
Reservoir	Pig, Rodent, Rabbit, Sheep, Goat, Cattle, Horse, Dog, Cat, Bat
Vector	None
Vehicle	Food, Water, Meat, Dairy products, Vegetables, Fecal-oral, Blood
Incubation Period	4d - 7d (range 1d - 11d)
Diagnostic Tests	Culture stool, blood. Alert laboratory when these organisms are suspected.
Typical Adult Therapy	Stool precautions; diarrhea is self-limited. If severe disease - Ciprofloxacin 500 mg BID X 5 to 7d. OR Sulfamethoxazole / Trimethoprim
Typical Pediatric Therapy	Stool precautions; diarrhea is self-limited. If severe disease - Sulfamethoxazole / Trimethoprim 20 mg-4 mg/kg BID X 5 to 7d
Clinical Hints	- Fever, diarrhea, and right lower quadrant pain - Fecal leucocytes present - May be associated with rheumatologic manifestations such as erythema multiforme, Reiter's syndrome and chronic arthritis
Synonyms	Far East scarlet-like fever, FESLF, <i>Yersinia enterocolitica</i> , <i>Yersinia pseudotuberculosis</i> , Yersiniose. ICD9: 008.44 ICD10: A04.6,A28.2

Zygomycosis

Agent	FUNGUS. Zygomycota, Zygomycetes, Mucorales: <i>Mucor</i> spp., <i>Rhizopus</i> spp., <i>Lichtheimia</i> (formerly <i>Absidia</i>) spp., <i>Saksenaea</i> spp., et al
Reservoir	Saprophytes
Vector	None
Vehicle	Air, Bandages, Contact, Respiratory or pharyngeal acquisition
Incubation Period	Variable
Diagnostic Tests	Fungal smear and culture.
Typical Adult Therapy	Amphotericin B to maximum dose 0.8 mg/kg/d; and to total dose of 3g. Excision as indicated
Typical Pediatric Therapy	Amphotericin B max dose 0.8 mg/kg/d; and to total dose of 40 mg/kg. Excision as indicated
Clinical Hints	- Occurs in the setting of preexisting acidosis (diabetes, uremia) - Periorbital pain, sinusitis, and palatal, nasal or cerebral infarcts - Pulmonary infection may complicate leukemia
Synonyms	Absidia, Actinomucor, Apophysomyces, Cokeromyces, Cunninghamella, Hormographiella, Lichtheimia, Lichtheimia, Mucor, Mucormycosis, Mycocladus, Phycomycosis, Rhizomucor, Rhizopus, Saksenaea, Syncephalastrum. ICD9: 117.7 ICD10: B46

Vaccine Schedule and coverage for Gambia

BCG - birth
 DTwP - 18-24 months; booster
 DTwPHibHepB - 2,3,4 months
 HepB - birth
 HPV - 9-13 years; +6 months
 IPV - 4 months
 Measles - 9,18 months
 OPV - birth 2, 3, 4, 9,18 months
 Pneumo conj - 2,3,4 months
 Rotavirus - 2,3,4 months
 TT - 1st contact; +1, +6 months; +1, +2 year
 YF - 9 months



A given generic vaccine may have multiple designations in this list due to variations in terminology used by individual countries. Vaccination policies evolve rapidly in response to changes in disease occurrence and the introduction of new vaccines. Every effort has been made to update these lists accordingly.

Vaccine Abbreviations

aP - Attenuated pertussis
 ap - Attenuated pertussis
 BCG - Bacillus Calmette Guerin
 CBAW - Childbearing age women
 D - Diphtheria
 HCW - Health-care workers
 Hep - Hepatitis B
 HEP - Hepatitis B
 HepA - Hepatitis A
 HepB - Hepatitis B
 Hib - Haemophilus influenzae type B
 HPV - Human papillomavirus
 IPV - Injectable polio vaccine
 MenACWY - Meningococcus types A,C,Y and W
 MenA-conj - Meningococcus type C conjugate
 MenC-conj - Meningococcus type C conjugate
 MR - Measles, Rubella
 MMR - Measles, Mumps, Rubella
 MMRV - Measles, Mumps, Rubella, Varicella
 NA - Details not available
 OPV - Oral polio vaccine
 P - Pertussis

Pneumo - Pneumococcal vaccine
Pneumo conj - Pneumococcal conjugate
Pneumo ps - Pneumococcal polysaccharide
T - Tetanus
TBE - Tick-borne encephalitis
Td - Tetanus lower dose diphtheria
TT - Tetanus toxoid
wP - Whole-cell pertussis
YF - Yellow fever
Zoster - Herpes zoster

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