**HELMINTHES**

***NEMATODES***

1) ***Roundworms***

a. round tapering elongated

b. No appendages

c. Thick undigestible covering

d. Multiples in massive numbers

e. Most die but some survive

f. Can cause serious (sometimes deadly diseases)

g. Often ingested, sometimes penetrate

h. Both adults AND larval forms are capable of causing serious disease

2) ***Adults***

a. Trichinella Spiralis, Ascaris, Lumbricoides, Dracunculus, Mendinensis, Entrobius Vermicularis, Ancylostome Duodenale, Necator Americanus

b. Penetrate or ingested via food

3) ***Larvae***

a. Wuchereria Bancrofti, Loa Loa, Onchocerca Vulvulus, Dradunculus Mendinensis

b. Often have mosquitoes as hosts and vectors

**IMPORTANT NEMATODES**

1) ***Trichinella Spiralis***

a. Trichinosis

b. Trichina Worm

c. Almost all adults have antibodies

d. Poorly cooked pork, game animals meat, Horse meat in France

e. GI tract, larvae develops into adults

f. Adults mate, male DIES and females will die after they prode more larvae

g. Migrate through blood and lymph vessels to liver and diaphragm

h. Tissue damage, diarrhea, Muscular pain, nervous disorders, Eosinophilia, Resp. complications

i. Death can take place (depends upon location of cyst)

2) ***Filiria***

a. *Filiriasis*

i. Wuchereria Bancrofti, Brugia Malayi

b. 100 million cases worldwide

c. Adults grow in lymphatics

d. At night they retreat to deep vessels (lungs)

e. Blocks lymphatics

i. causes inflammation and fever

f. ***Elephantisis***-treated with *Diethylcarbamiazine* and *Metronidazole*

g. Use pressure bandages to prevent massive swelling

3) ***Entrobius Vermicularis***

a. Pinworm infection, Oxyuriasis

b. Humans are only known hosts

c. Over 200 million cases worldwide

i. 18 million in USA

d. Attach to large intestine

e. Adult female migrates to anus and comes out to lay eggs at night then goes back inside- ***Retrofection***

f. *Transmission:* bed clothes, finger nails, inhalation of airborn eggs (sniffing an infected individuals butt crack??)

g. Moves to esophagus and mouth

h. *Causes:* Itching discomfort

i. ***Scotch tape test***

i. put tape over booty hole at night and next morning they rip it off and see if they find it on the tape

\*\*at this point im just having fun--very tired of finals.

\*\*please dont tattle on me.

4) ***Ancylstoma Duodenale (Old world hookworm)***

a. eggs released in feces in soil

b. Burrough through feet/legs, reach heart and resp system (lungs)

c. Coughed up and swallowed

d. In GI tract, larvae mature and damage lungs and small intestine

e. Debilitating abdominal pain

f. Patients are lazy

g. Necator Americanus is similar (new world hookworm)

h. Caused by A. Canium (Dog hookworm)

5) ***Ascaris Lumbricoides***

a. *Ascariasis*

b. Food and water infected with eggs

c. Larvae penetrate intestinal wall

i. get into blood and lymph

d. Go thru lungs and GI tract

e. *Causes*: ***Ascaris Pneumonitis***

i. malnutrition

ii. intestinal blockage

iii. Constipation and perforation

1) Peritonitis following perforations is FATAL

f. Wandering larvae can cause abscesses in liver and other organs

6) ***Dracunculus Medinensis***

a. Guinea Worms

b. *Transmission*: Flea

c. *Causes:* blisters

i. When blister ruptures, worm emerges

d. Takes 30-100 days

e. Crippling Joints

7***) Onchocerca Vulvulus***

a. *River Blindness*

b. *Transmission:* Black Fly

i. transmits to eye and many other organs

c. Treatment to kill parasite causes more complications

8) ***Trichuris Trichura***

a. Whipworm

b. *Transmission*: Human feces and children's dirty hands

9) ***Strongyloides Stercolis***

a. Parthenogensis

b. Thread Worm

c. Producton of eggs WITHOUT fertilization

d. No male-***Parthenocarpy***

**CLINICALLY IMPORTANT NEMATODES**

***Brugia Malayi***

1) *Transmission*: Insects

i. *Anophlene, Aedes, Culex*

2) Found in scrotal sac

\*There are many others, this is the one he had underlined specifically. There’s a huge chart if you want to look at all of them.

**TREMATODES**

1) *Leaf like Flatworms*

2) Complex life cycle

3) Multiple hosts

4) Life cycle involves: humans, snails, sometimes crabs

5) *Male and Female are separate*

**IMPORTANT TREMATODES**

1) ***Schistosome Japonicum***

a. *Blood fluke*

b. *Causes*: Bilharzia, Abdominal pain, allergic reactions, urinary bladder inflammation, neurological destruction, spleen & liver enlargement

c. ***Bilhazaria:*** Liver disease

2) ***S. Haematobium***

a. Similar to above

3) ***S. Mansoni***

a. *Swimmers Itch*

b. Bird's

i. relieved in ***bird fecal matter***

4) ***Clonorchis Sinensis (old name: Opisthorchis Sinens)***

a. *Chinese Liver Fluke*

b. *Causes:* Abdominal pain, enlarged liver and spleen, increased Eosinophilia, persistent diarrhea

5) ***Paragonimus Westermani***

a. *Lung fluke*

b. *Causes*: Chronic Cough, resp. difficulty

c. Sputum with brownish streaks

6**) Other**

a. Fasciola Hepatica (sheep liver fluke)

i. largest (10-12 mm)

b. Heterophyes Heterophyes

i. smallest (1-2 mm)

c. Fasciolopsis Buski

i. Hosts: Humans and PIGS

d. \*Schistosoma Haematobium

i. affect blood vessels, bladder

e. \*Schistosoma Japonicum

i. affect blood vessels

f. \*Schistosoma Mansoni

i. affects blood vessels and intestines

\*All these cause Schistosomiasis

g. typical Fluke

i. Has an oral sucker (attachment site to various organs)

e. Sporocysts develop into Cercaria

f. Cercaria enter body, lose their tails and encyst as Metacercaria-penetrates the human tissue

g. Free-swimming Miracidium enter snails and develop into the sporocysts

**CESTODES**

***CESTODA***

1) Tape Worms

2) Ribbon shaped

3) As long as meters

4) Head of *'****scolex****'* (not true head)--attachment component

a. scolex has 4 suckers on it

5) Body of worm ***'Strobila'***

a. made up of long chain: Hermaphroditic 'Proglotids'

b. Each proglotid is a simple, complete animal itself

c. loaded with fertilized eggs

6) Ingestion of Cysticercus-Infectious embryo

***IMPORTANT MAJOR CESTODES***

1) ***Echinococcus Granulosis***

a. Hydatid Disease

b. Carried by many animals-cattle, dogs, foxes, horses, humans, pigs, rabbits

c. *Transmission*: Ingestion

d. Forms a bladder-like leathery cyst which can be lodged in almost any organ

e. *Treatment:* Surgery to infected organ or ***Mebendazole***

2) ***Taenia Saginata (taeiarhyncus Saginatus)***

a. Beef tapeworm

b. *Transmission*: Cysticercus (larval form)

c. *Causes*: disease (as adults) in small intestine

d. *Causes*: abdominal pain, headache, loss of appetite, nutritional deficiency, sensitivity to touch, nausea

3) ***Taenia Solium***

a. Pork Tapeworm

4) ***Dibothriocephalus Latum (Diphyllobothrium)***

a. Fish tapeworm

b. *Causes:* abnormalities such as abdominal discomfort, diarrhea, nausea, Vit B12 deficiency, Pernicious anemia

5) ***Hymenolopsis Nana***

a. Common tapeworm found in rats, mice, and humans