
TISSUE FILARIASIS

Onchocerca volvulus



Morphology



Microfilaria



Unsheathed—tail is tapered and free of nuclei
150–368 x 5–9 μm

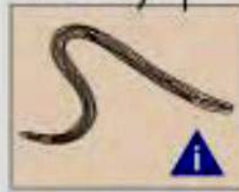


Filariasis

(*Onchocerca volvulus*)

Blackfly Stages

1 Blackfly (genus *Simulium*) takes a blood meal (L3 larvae enter bite wound)



9 Migrate to head and blackfly's proboscis

8 L3 larvae

7 L1 larvae

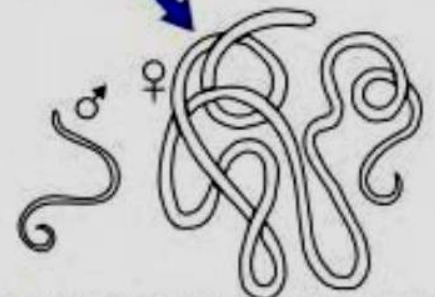
6 Microfilariae penetrate blackfly's midgut and migrate to thoracic muscles

5 Blackfly takes a blood meal (ingests microfilariae)



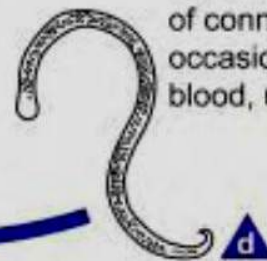
Human Stages

2 Subcutaneous tissues



3 Adults in subcutaneous nodule

4 Adults produce unsheathed microfilariae that typically are found in skin and in lymphatics of connective tissues, but also occasionally in peripheral blood, urine, and sputum.



i = Infective Stage

d = Diagnostic Stage

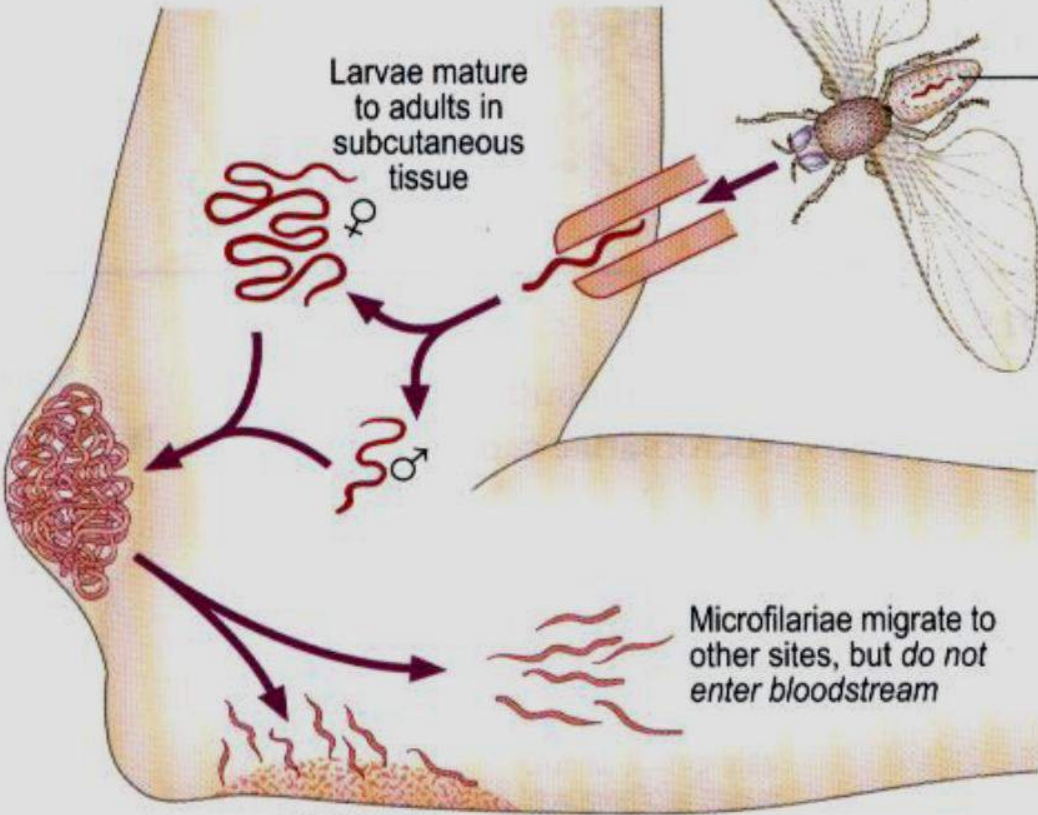
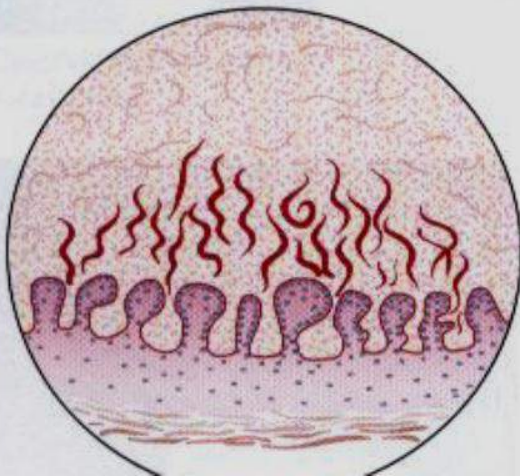
Simulium
Principale
(Buffalo)

No periodicity

Subcutaneous nodule
Adult ♂ & ♀ filariae



Cellular reaction,
then fibrosis



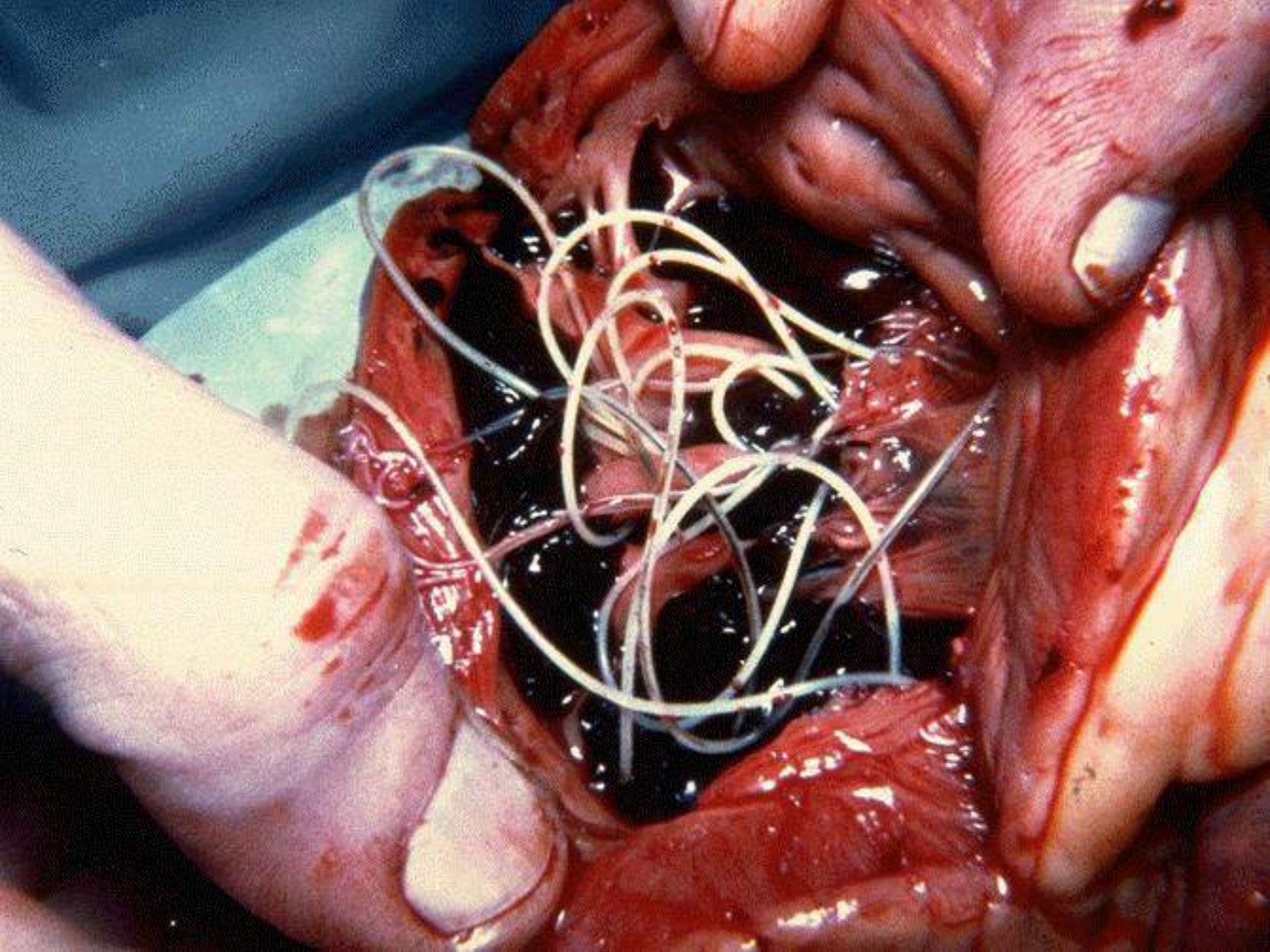
Larvae mature
to adults in
subcutaneous
tissue

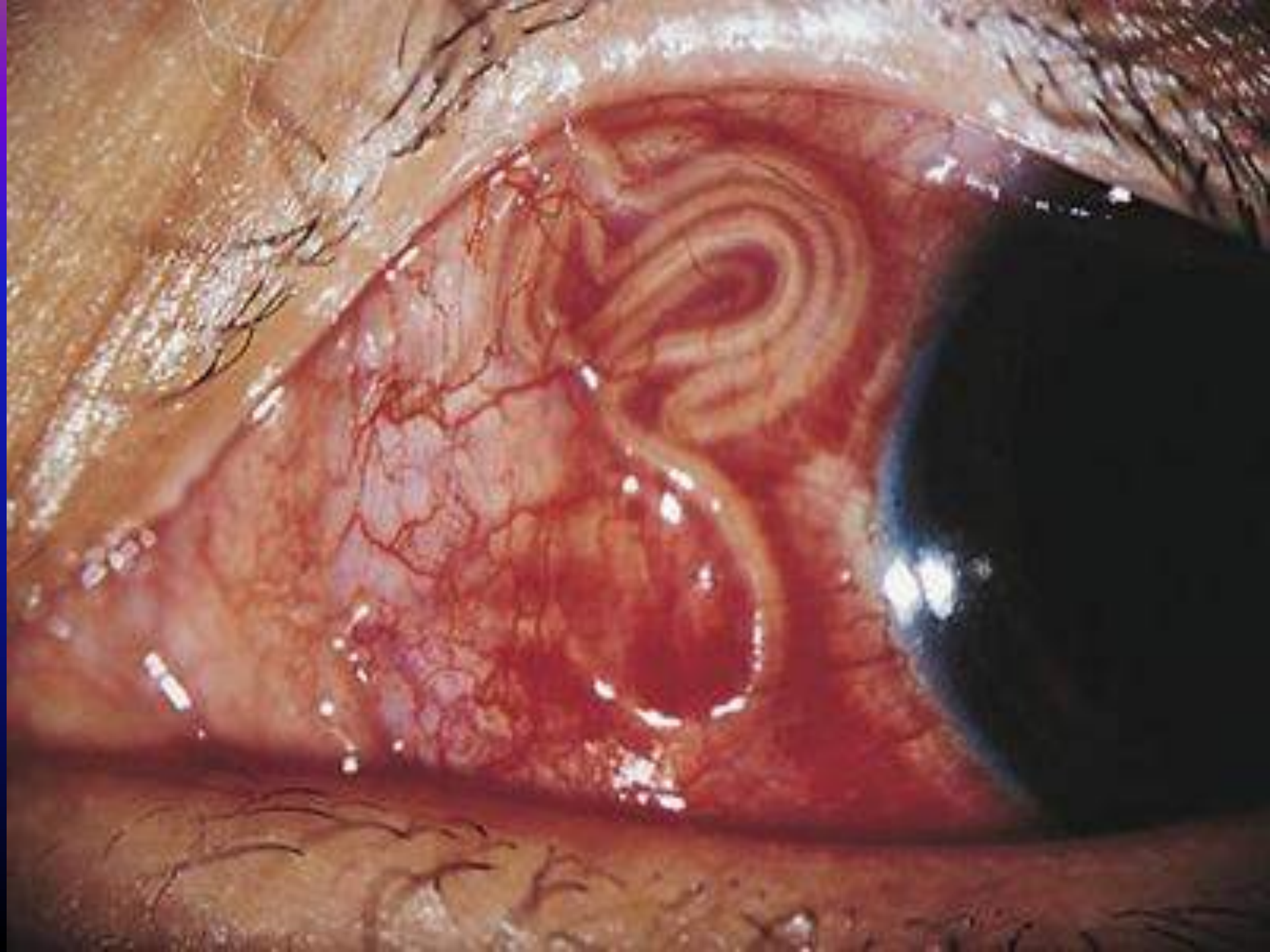
Microfilariae migrate to
other sites, but do not
enter bloodstream

Dermatitis







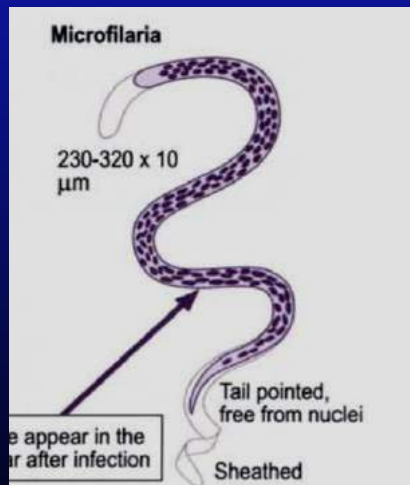
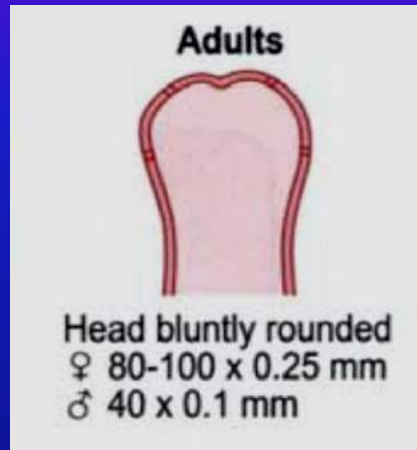


Tissue Nematoda (Filarial Nematoda)

Wuchereria bancrofti

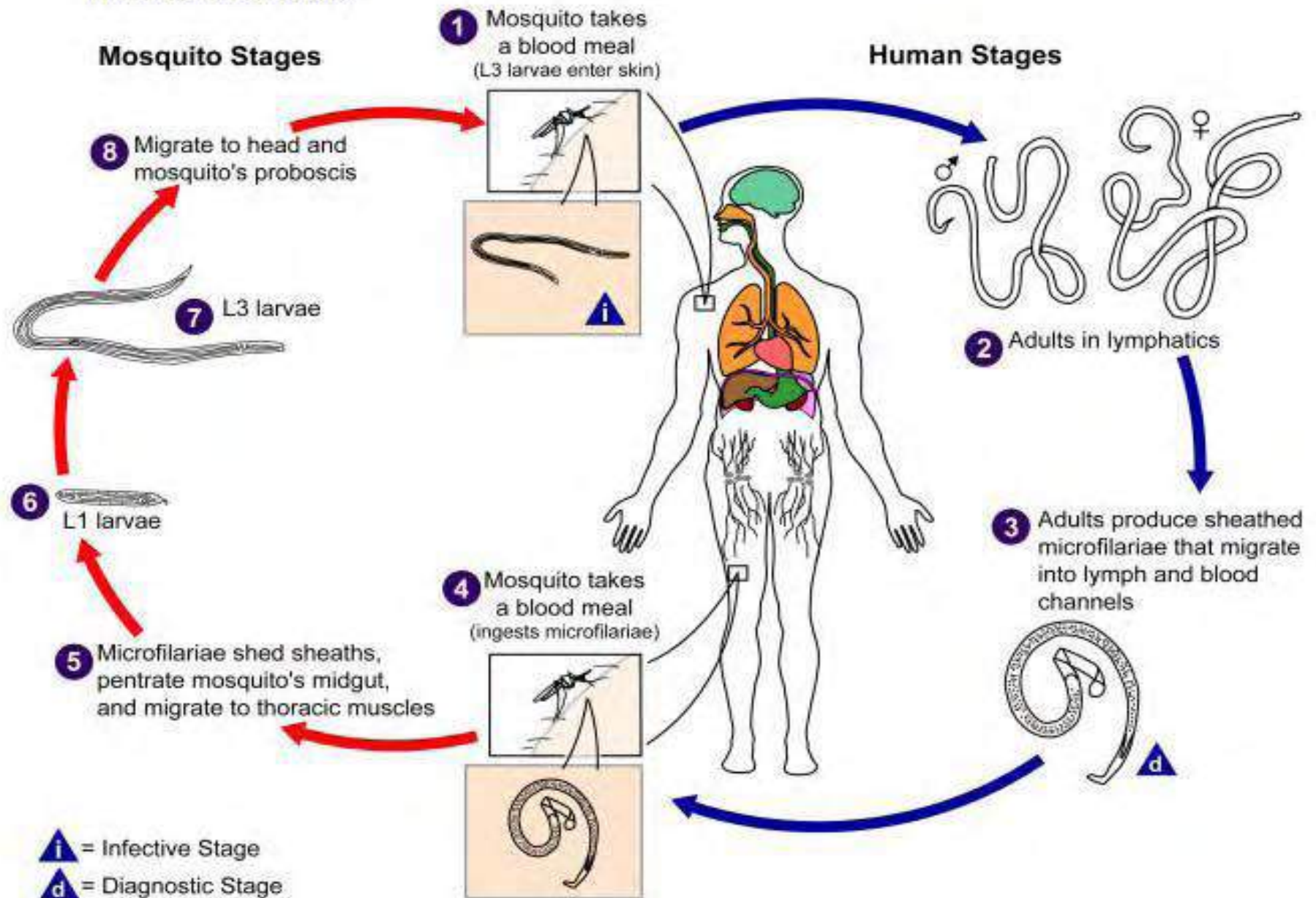


Morphology

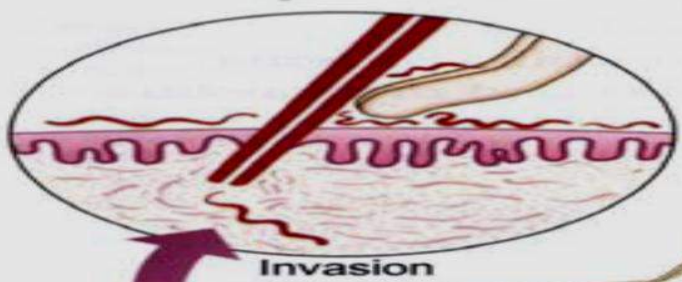


Filariasis

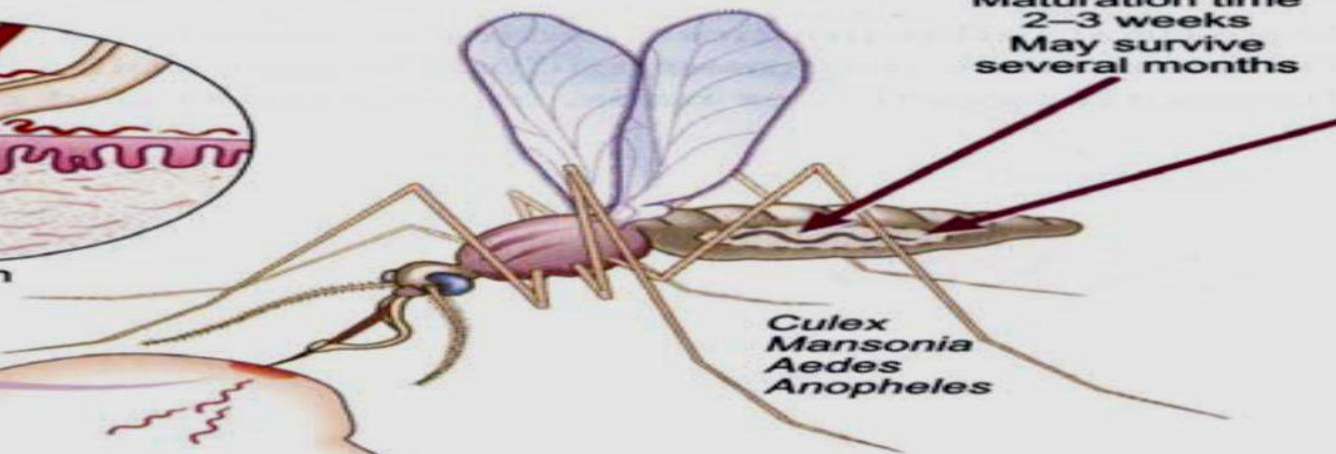
(*Wuchereria bancrofti*)



Maturation time
2-3 weeks
May survive
several months

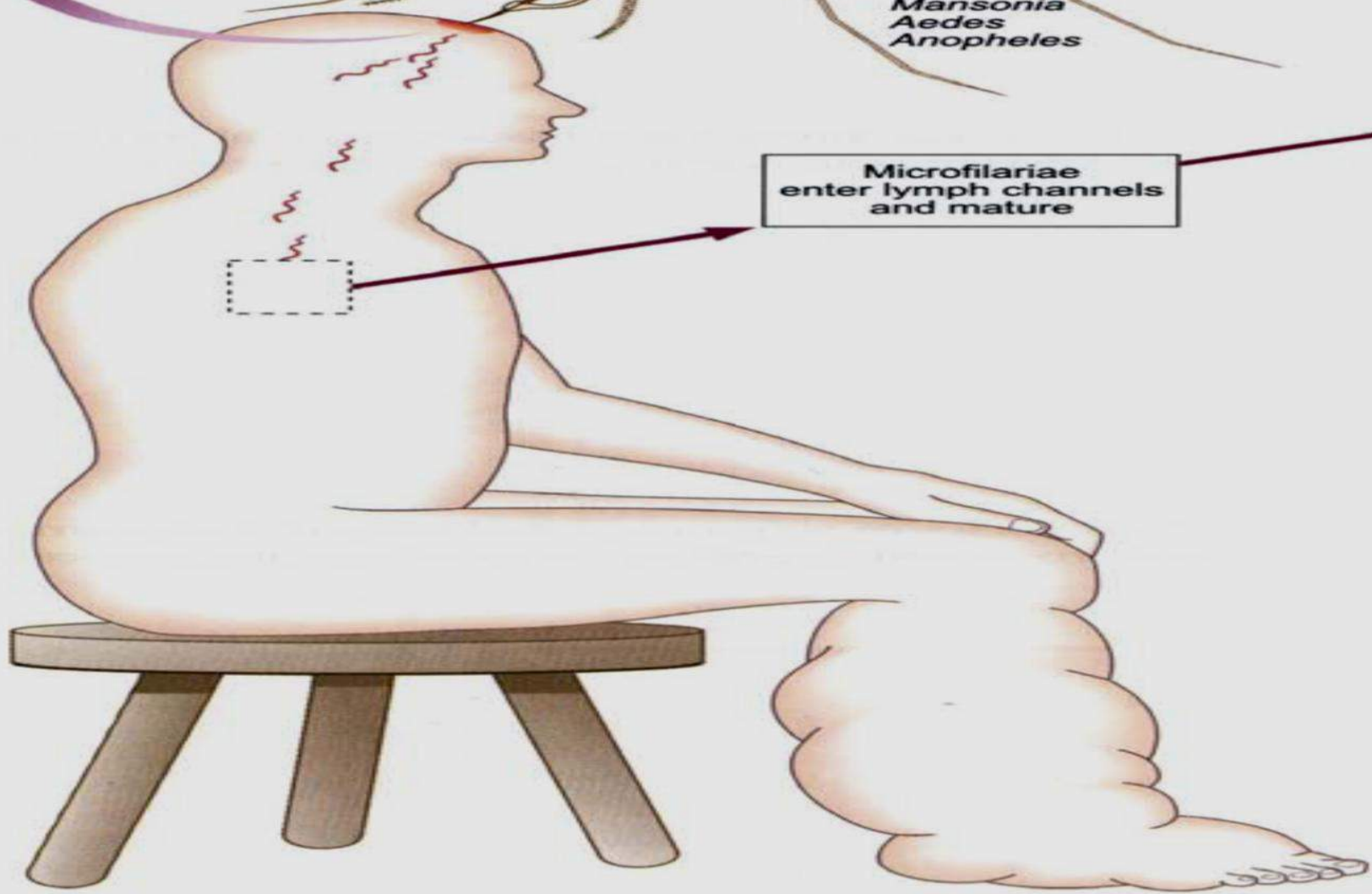


Invasion



Culex
Mansonia
Aedes
Anopheles

Microfilariae
enter lymph channels
and mature



Elephantiasis

