

A 7-year-old boy is brought to the physician due to a 1-month history of anal pruritus. His symptoms are most severe at night. Physical examination shows mild perianal erythema. A clear adhesive is applied to the perianal region and transferred to a slide. Microscopy shows several eggs. Which of the following is the most appropriate treatment?

- ☐ A. Albendazole
- ☐ B. Benznidazole
- ☐ C. Hydrocortisone
- ☐ D. Ivermectin
- ☐ E. Metronidazole
- ☐ F. Quinine

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- ☒ A. **Albendazole** [83%]
☐ B. Benznidazole [2%]
☐ C. Hydrocortisone [0%]
☐ D. Ivermectin [10%]
☐ E. Metronidazole [3%]
☐ F. Quinine [0%]

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Explanation:

User Id:

<i>Enterobius vermicularis</i> (pinworm)	
Symptoms	Perianal pruritus, especially at night
Diagnosis	Eggs on tape test
Treatment	Albendazole OR pyrantel pamoate for patient & all household contacts

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Enterobiasis is the most common helminthic infection in the United States. *Enterobius vermicularis*, most frequently infects school-aged children (age 5-10). The adult pinworm thrives primarily in the human cecum and appendix. At night, the female worms migrate out through the rectum and deposit eggs in the perianal region, resulting in **nocturnal perianal pruritus**. Other symptoms may include abdominal pain, nausea, vomiting, and vulvovaginitis.

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Diagnosis is made using cellophane tape ("scotch tape test") to detect the presence of *Enterobius* eggs. **Albendazole** and **pyrantel pamoate** are the first-line treatment options, but the latter is preferred for pregnant patients. The patient and all household contacts should be treated as the infection is **highly contagious**.

(Choice B) Chagas disease (*Trypanosoma cruzi*) infection primarily affects the heart (cardiomyopathy, right bundle branch block) and gastrointestinal tract (megacolon, megaesophagus). Benznidazole is the first-line antitrypanosomal treatment; however, it is not used for enterobiasis.

(Choice C) Systemic glucocorticoids are generally avoided during infection due to their immunosuppressive effects.

(Choice D) Ivermectin is the first-line treatment for **strongyloidiasis**, which presents with urticaria, abdominal pain, and respiratory problems (eg, dry cough, dyspnea, wheezing). Onchocerciasis ("river blindness") causes ocular lesions and dermatitis and is also treated with ivermectin.

(Choice E) Metronidazole is used for protozoan infections such as amebiasis (acute dysentery, liver abscess) and trichomonas vaginitis (green-yellow, frothy, malodorous discharge) as well as anaerobic intraabdominal infections (eg, diverticulitis, peritonitis, cholangitis, abscess). It is not used for enterobiasis.

(Choice F) Quinine is an antimalarial drug used for treatment of uncomplicated chloroquine-resistant malaria. It is not effective for enterobiasis.

Educational objective:

Enterobius vermicularis infection is highly contagious and manifests as nocturnal perianal pruritus. Albendazole and pyrantel pamoate are first-line treatment options.

References:

1. **Soil-transmitted helminth infections: ascariasis, trichuriasis, and hookworm.**
2. **The post-treatment effects of enterobiasis on the occurrence of enuresis among children in Calabar, Nigeria.**

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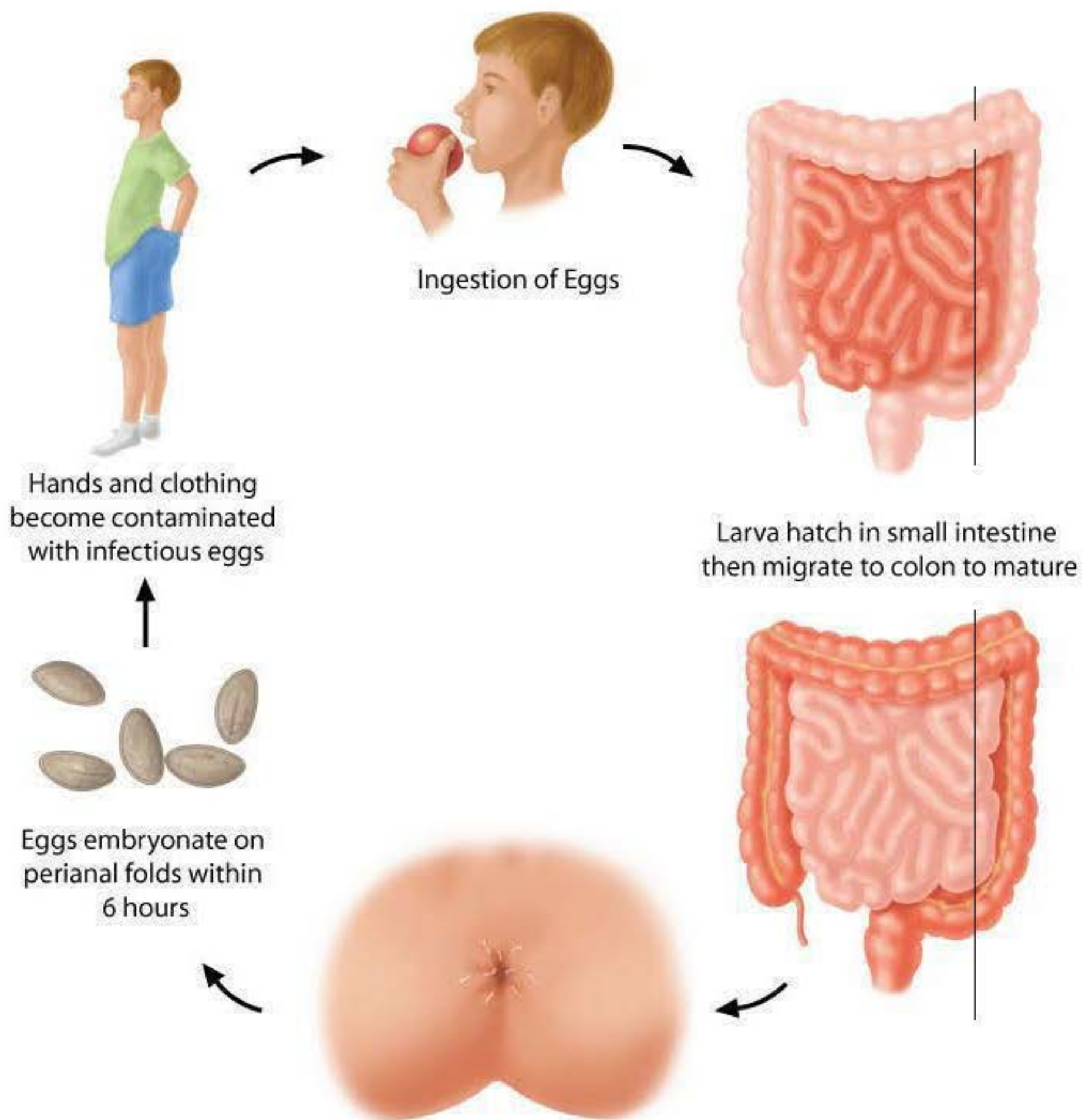
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Enterobiasis life cycle

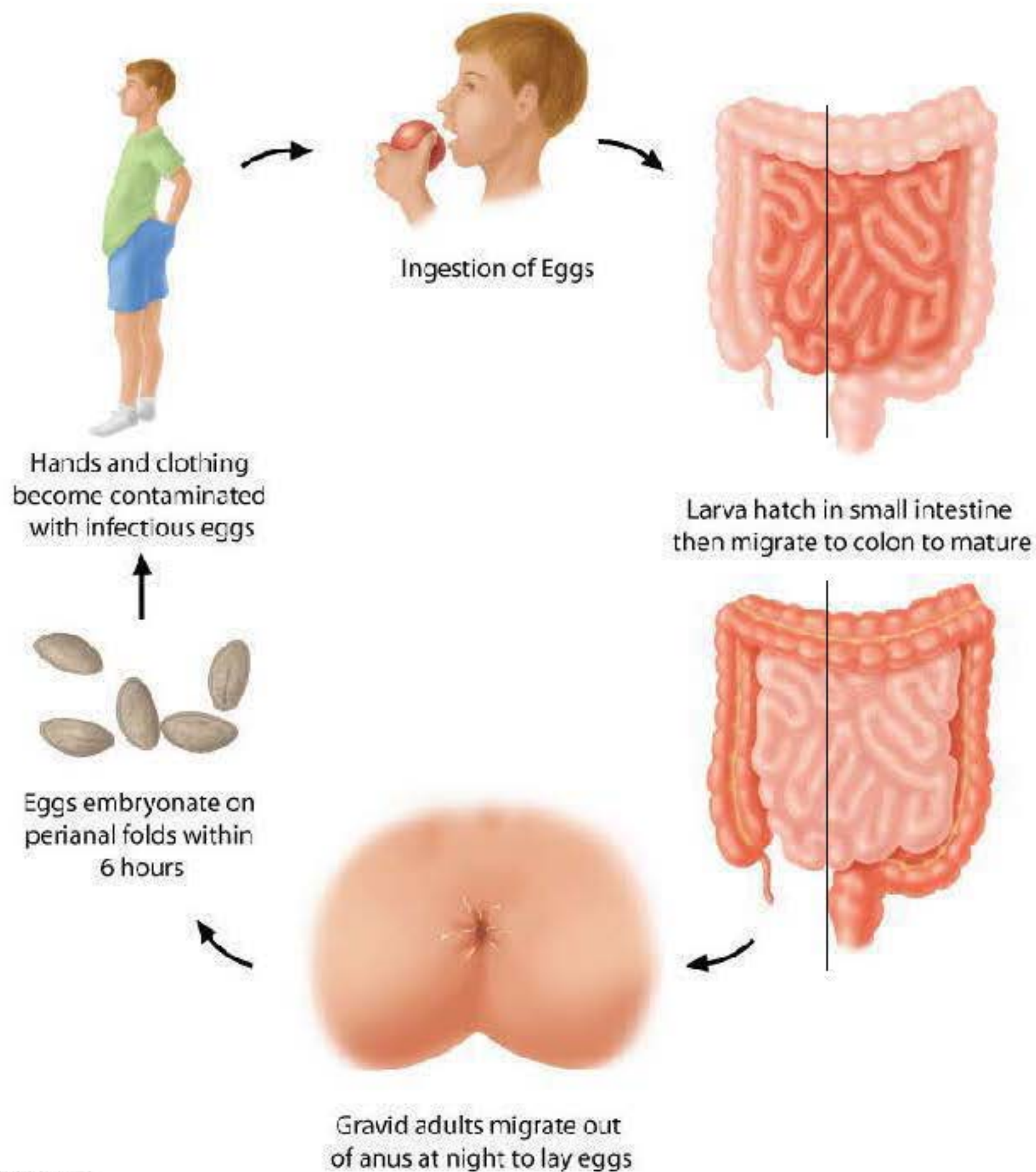
Enterobiasis life cycle



Media Exhibit

Enterobiasis life cycle

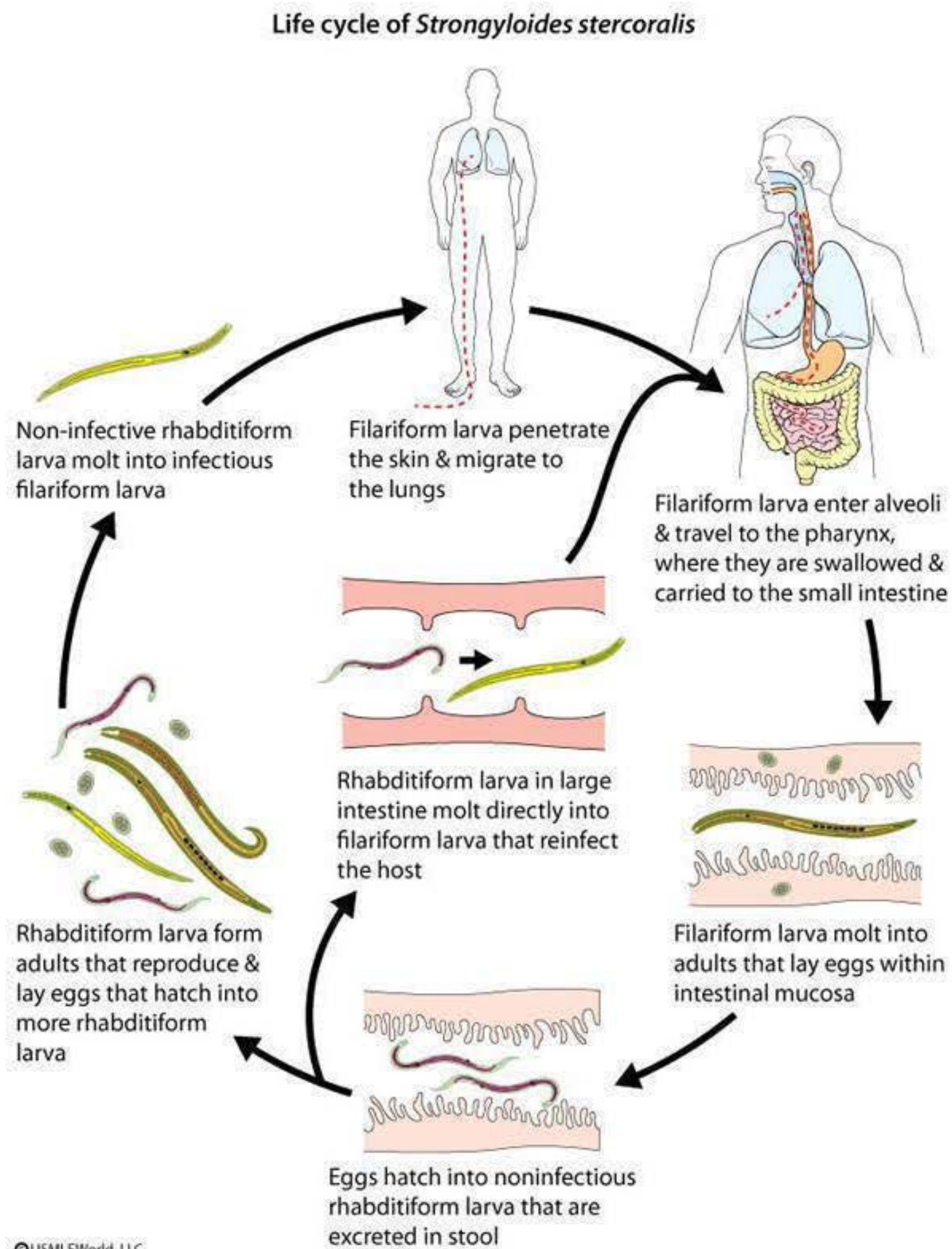
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Media Exhibit

Life cycle of *Strongyloides stercoralis*



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