

BHARAT SHIKSHAN SANSTHA'S  
Shri Chhatrapati Shivaji College ,  
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A  
PRESENTATION  
ON

LIFE CYCLE OF MALARIAL PARASITE

REPRESENTED  
BY

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# MALARIA

**Malaria** is a mosquito borne infectious disease affecting humans and other animals caused by parasitic protozoans (a group of single-celled microorganisms) belonging to the *Plasmodium* type.

# Symptoms of **Malaria**

## **Central**

- Headache



## **Systemic**

- Fever

## **Muscular**

- Fatigue
- Pain

## **Back**

- Pain

## **Skin**

- Chills
- Sweating

## **Respiratory**

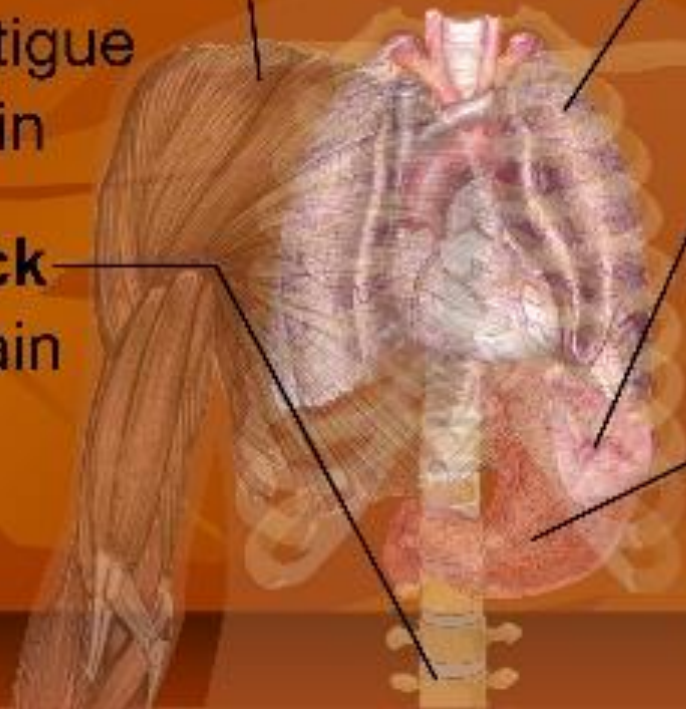
- Dry cough

## **Spleen**

- Enlarge-  
ment

## **Stomach**

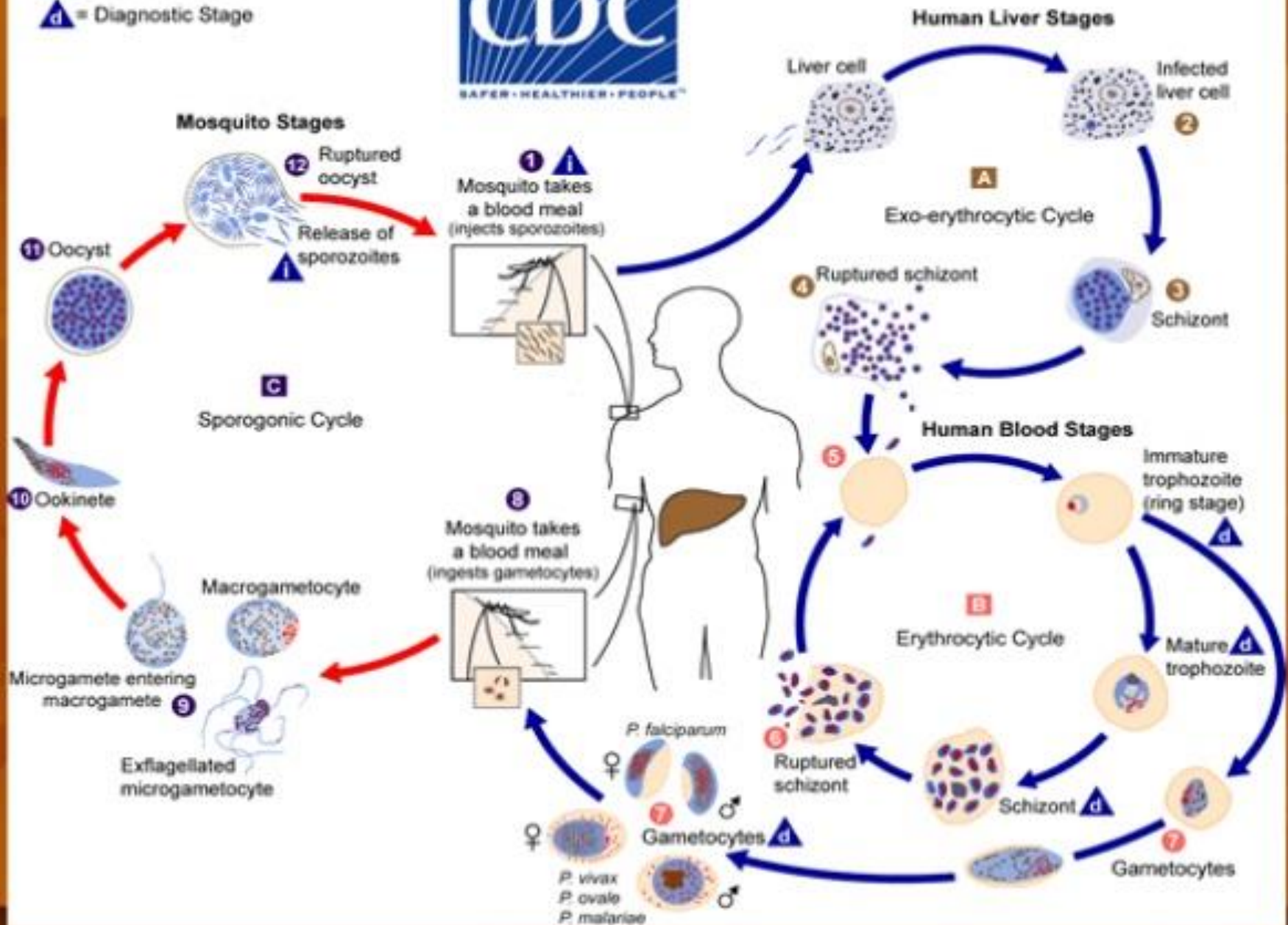
- Nausea
- Vomiting



# LIFECYCLE

In the life cycle of *Plasmodium*, a female *Anopheles* mosquito (the definitive host) transmits a motile infective form (called the sporozoite) to a vertebrate host such as a human (the secondary host), thus acting as a transmission vector.

**i** = Infective Stage  
**d** = Diagnostic Stage



The malaria parasite life cycle involves two hosts.

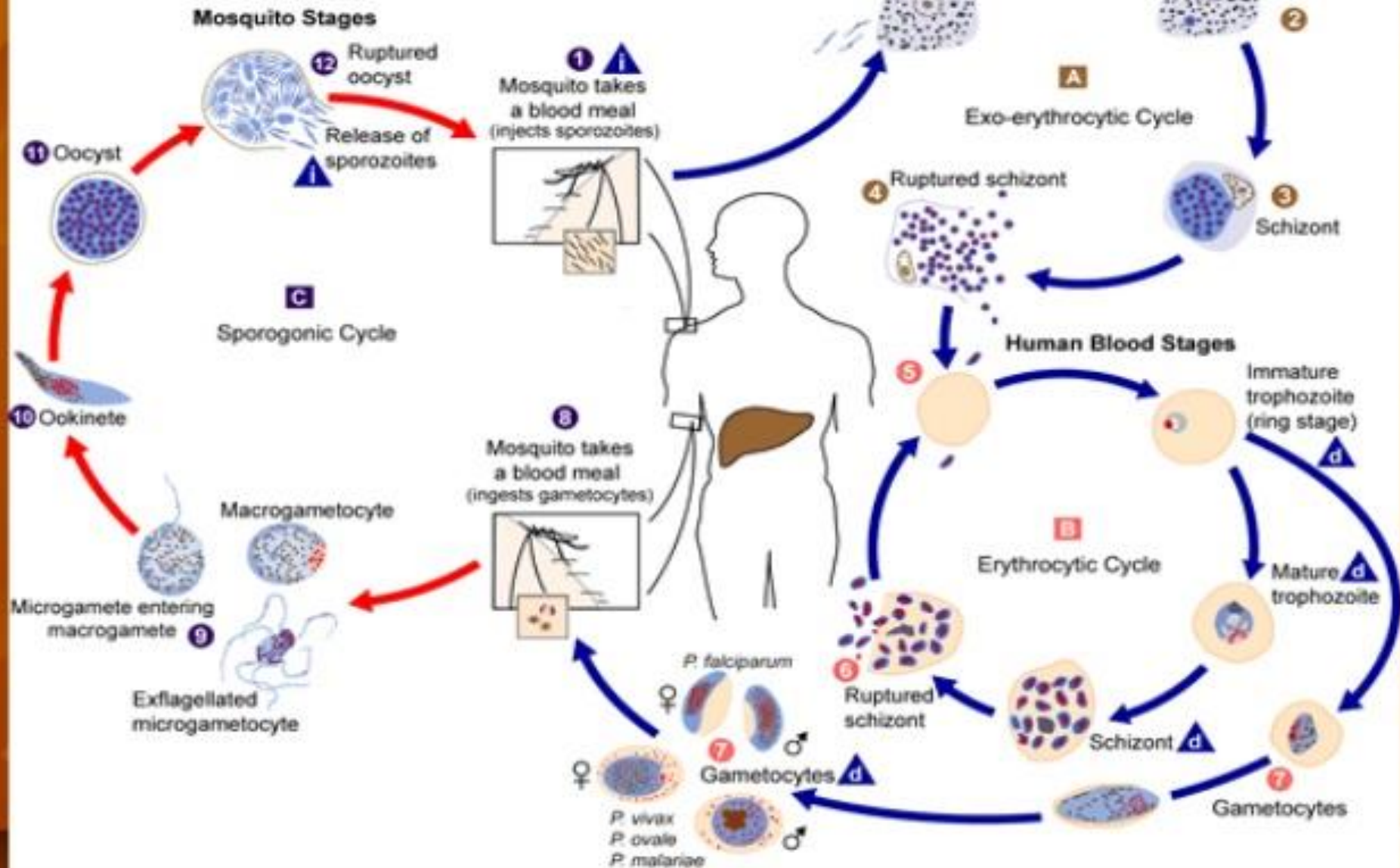
During a blood meal, a malaria-infected female *Anopheles* mosquito inoculates sporozoites into the human host .

1) Sporozoites infect liver cells.



2) Mature into schizonts.

**i** = Infective Stage  
**d** = Diagnostic Stage



3) Which rupture and release merozoites.



4) After this initial replication in the liver ,the parasites undergo asexual multiplication in the erythrocytes .Merozoites infect red blood cells.

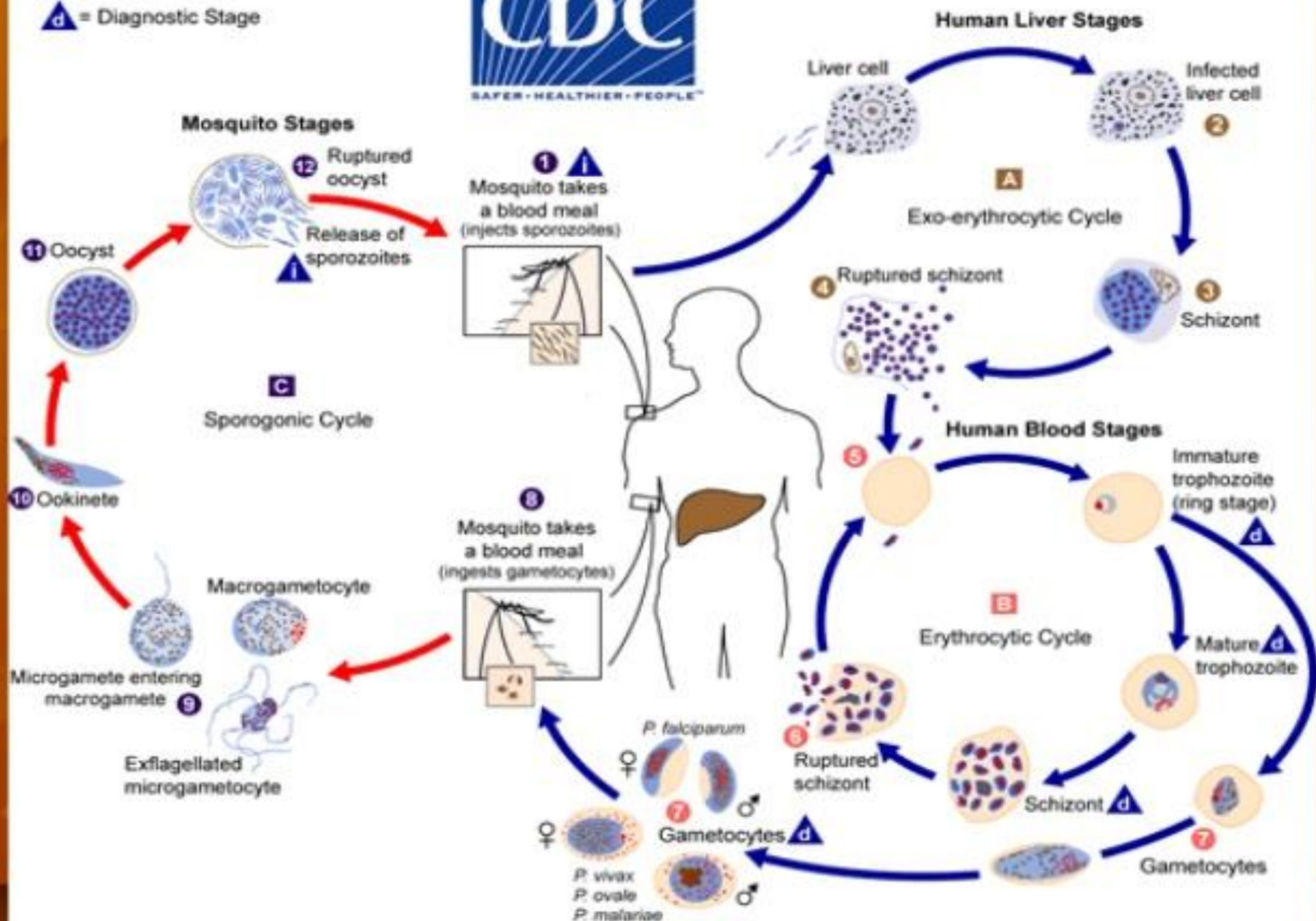


5) The ring stage trophozoites mature into schizonts, which rupture releasing merozoites.





**I** = Infective Stage  
**d** = Diagnostic Stage



6) Some parasites differentiate into sexual erythrocytic stages (gametocytes).



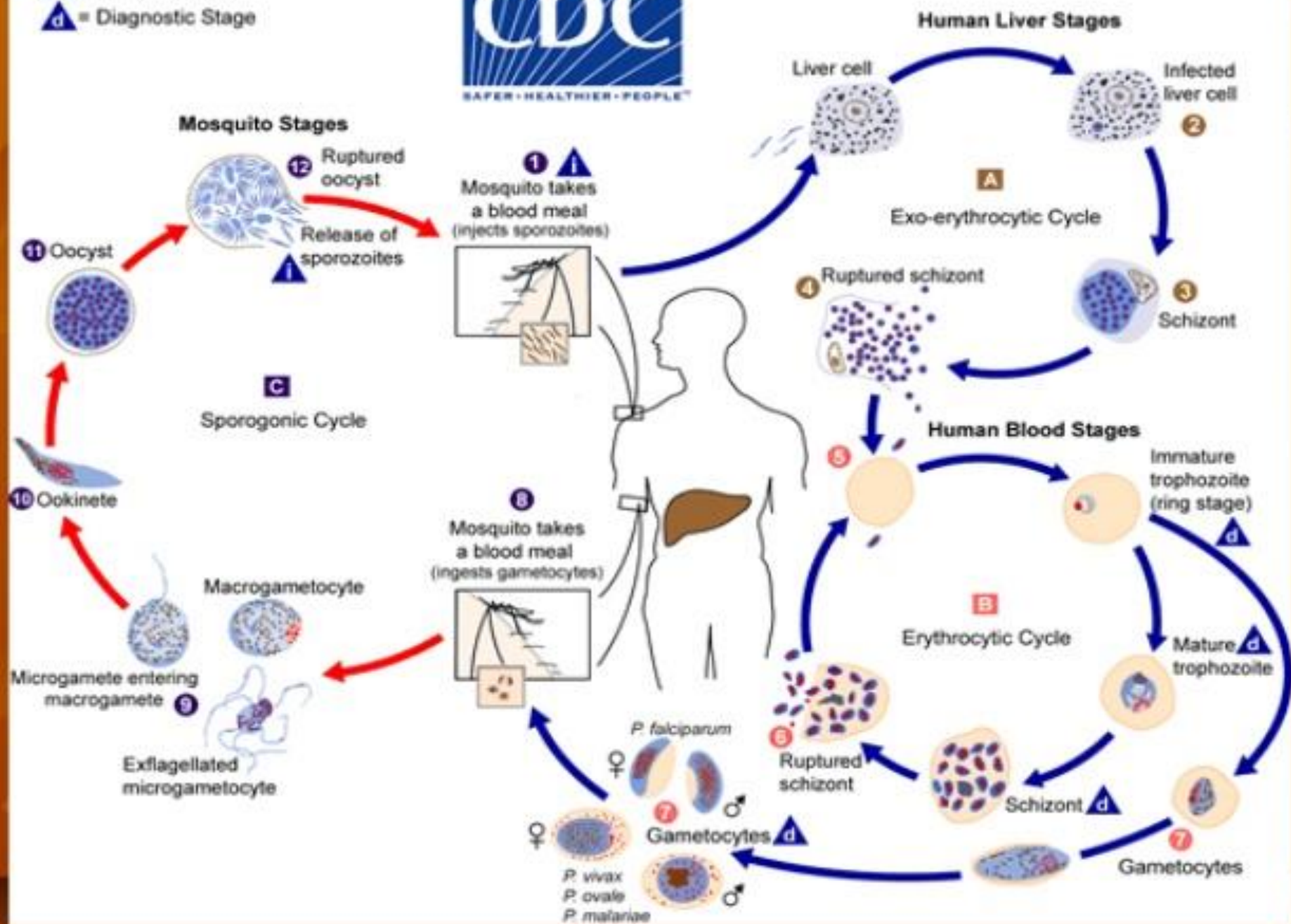
7) Blood stage parasites are responsible for the clinical manifestations of the disease.



8) The gametocytes, male (microgametocytes) and female (macrogametocytes), are ingested by an *Anopheles* mosquito during a blood meal.



**i** = Infective Stage  
**d** = Diagnostic Stage



C) The parasites multiplication in the mosquito is known as the sporogonic cycle.

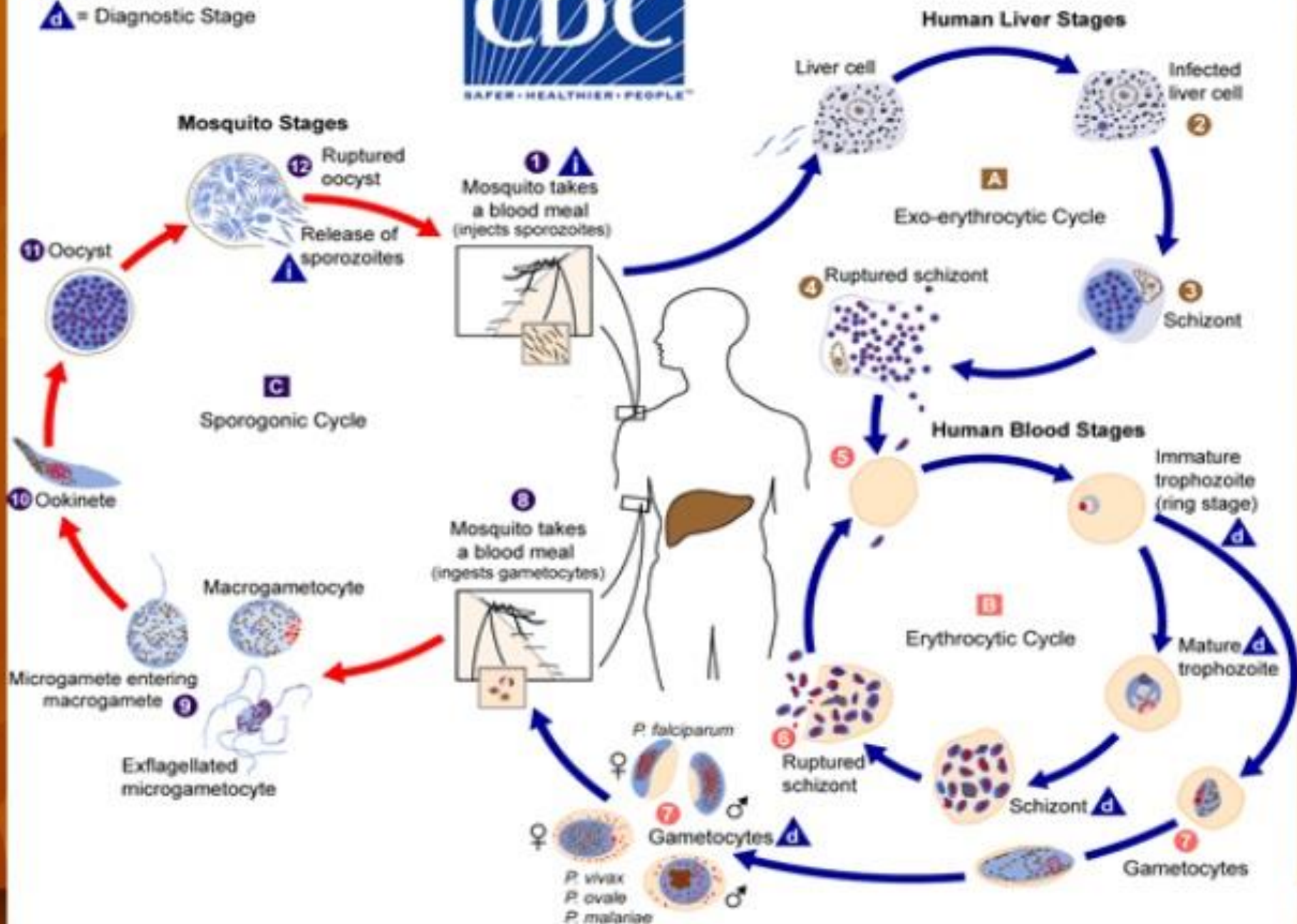


9) While in the mosquito's stomach, the microgametes penetrate the macrogametes generating zygotes.



10) The zygotes in turn become motile and elongated (ookinetes).

**i** = Infective Stage  
**d** = Diagnostic Stage



11) Which invade the midgut wall of the mosquito where they develop into oocysts.



12) The oocysts grow, rupture, and release sporozoites.



13) Which make their way to the mosquito's salivary glands. Inoculation of the sporozoites into a new human host perpetuates the malaria life cycle.

⇒ Only female mosquitoes feed on blood, male mosquitoes feed on plant nectar, and do not transmit the disease.

⇒ Malaria parasites can also be transmitted by blood transfusions, although this is rare.

THANK YOU

