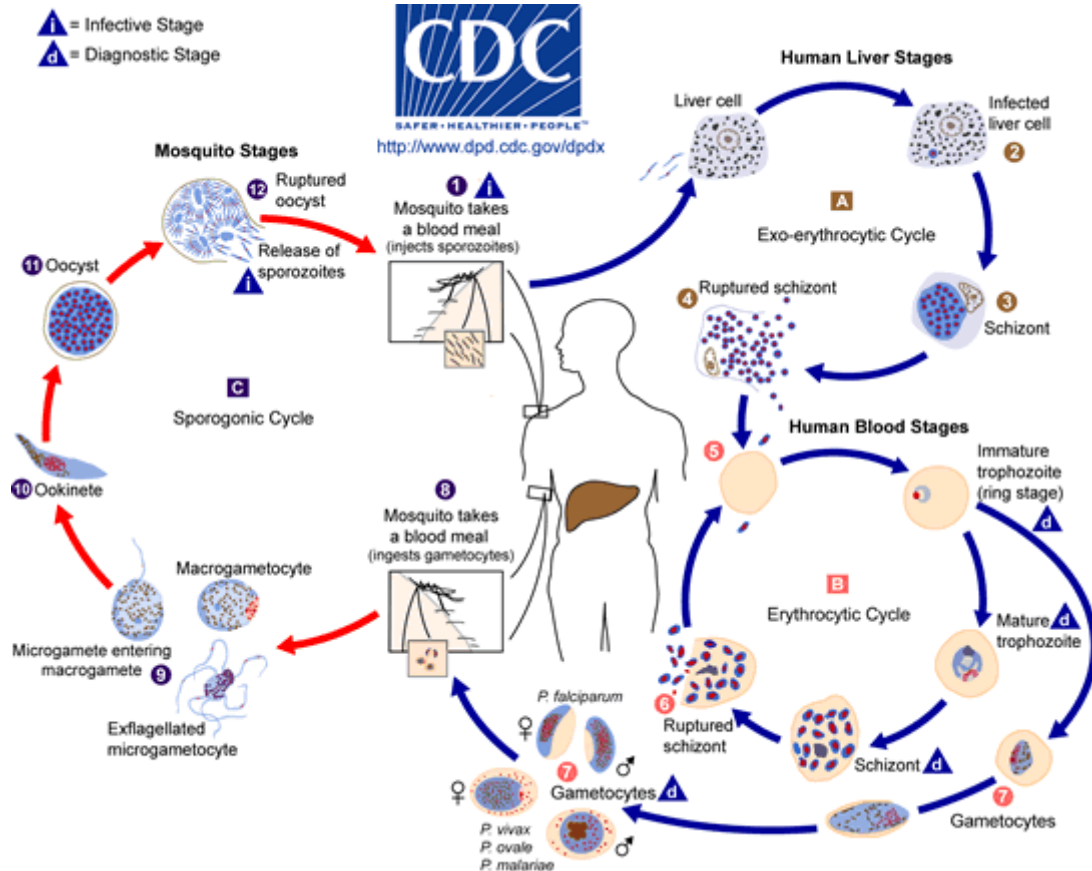


Life Cycle:



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** and mature into schizonts **3**, which rupture and release merozoites **4**. (Of note, in *P. vivax* and *P. ovale* a dormant stage [hypnozoites] can persist in the liver and cause relapses by invading the bloodstream weeks, or even years later.) After this initial replication in the liver (exo-erythrocytic schizogony **A**), the parasites undergo asexual multiplication in the erythrocytes (erythrocytic schizogony **B**). Merozoites infect red blood cells **5**. The ring stage trophozoites mature into schizonts, which rupture releasing merozoites **6**. Some parasites differentiate into sexual erythrocytic stages (gametocytes) **7**. Blood stage parasites are responsible for the clinical manifestations of the disease.

The gametocytes, male (microgametocytes) and female (macrogametocytes), are ingested by an *Anopheles* mosquito during a blood meal **8**. The parasites' multiplication in the mosquito is known as the sporogonic cycle **C**. While in the mosquito's stomach, the microgametes penetrate the macrogametes generating zygotes **9**. The zygotes in turn become motile and elongated (ookinetes) **10** which invade the midgut wall of the mosquito where they develop into oocysts **11**. The oocysts grow, rupture, and release sporozoites **12**, which make their way to the mosquito's salivary glands. Inoculation of the sporozoites into a new human host perpetuates the malaria life cycle **1**.