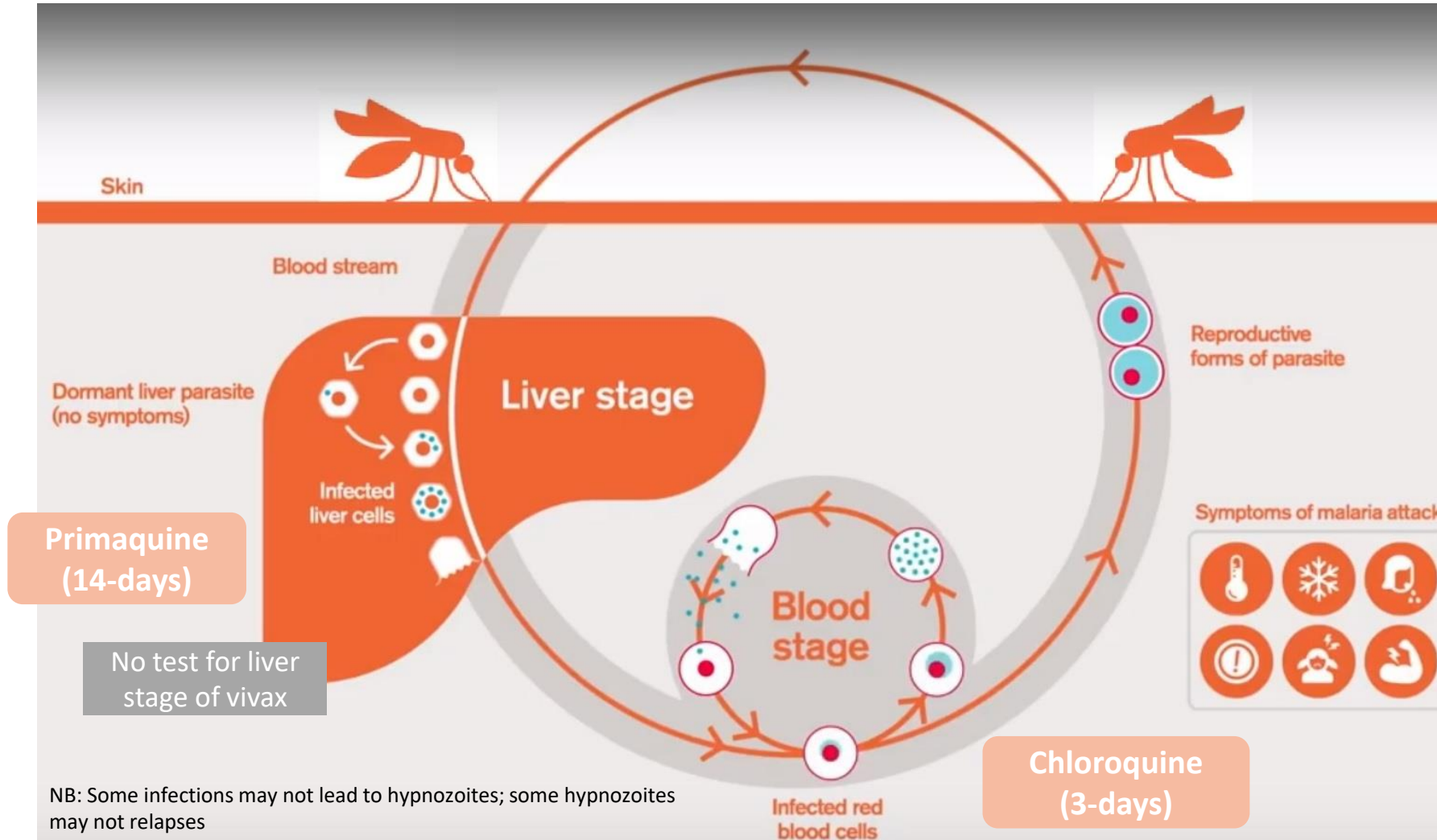


How to treat *P. vivax* malaria with primaquine

By the end of this session you should be able to:

- Understand how and when to use primaquine to treat liver-stage uncomplicated *P. vivax* malaria

Vivax has a dormant liver stage which causes relapses



Overview of *P. vivax* malaria treatment

Current National Treatment Guideline & WHO recommendation for treatment of *P vivax* malaria

To treat the acute malaria infection

**Chloroquine (x 3 days) /
Artemisinin Combination Treatment (ACT)**



To prevent the relapse of malaria

Primaquine (14 days)



Primaquine (PQ) is the WHO-recommended anti-relapse treatment

- **PQ clears the parasites that are dormant in the liver and prevents relapses**
- **PQ when given at certain doses and intervals can cause haemolysis (destroy red blood cells) in patients with low and medium levels of G6PD enzyme activity.**
- **AHA can be a life-threatening condition, potentially requiring blood transfusion and dialysis**
- **Knowing the G6PD status of a patient prior to PQ treatment and choosing the appropriate treatment algorithm can minimize the risk of haemolysis**
- **A G6PD test helps to determine the G6PD status and can provide results within a few minutes**

G6PD: glucose-6-phosphate dehydrogenase

When primaquine SHOULD NOT be prescribed



Pregnant women*



**Women breastfeeding*
infants under 6 months**

**Women breastfeeding*
older children with low
G6PD enzyme activity**



Babies under 6 months

[*Consider weekly chemoprophylaxis with chloroquine until delivery and breastfeeding are completed, then, on the basis of G6PD status, treat with primaquine to prevent future relapse.]

Dosage and administration

	Daily Primaquine (PQ)*
G6PD test	Test all patients for G6PD activity before PQ use
G6PD enzyme activity	Equal to or more than 4.1 U/g Hb [#]
Age	6 months and older
Dose	[0.25 mg/kg] X 14 days
Administration	[With chloroquine] or with an ACT
	Can be broken
	Give with food to avoid stomach discomfort
Patient counselling	STOP PQ and go immediately to nearest health facility if they have any of the following signs: Pallor, fatigue, shortness of breath, rapid heart rate, yellowing of the skin and whites of the eyes (jaundice) or dark urine

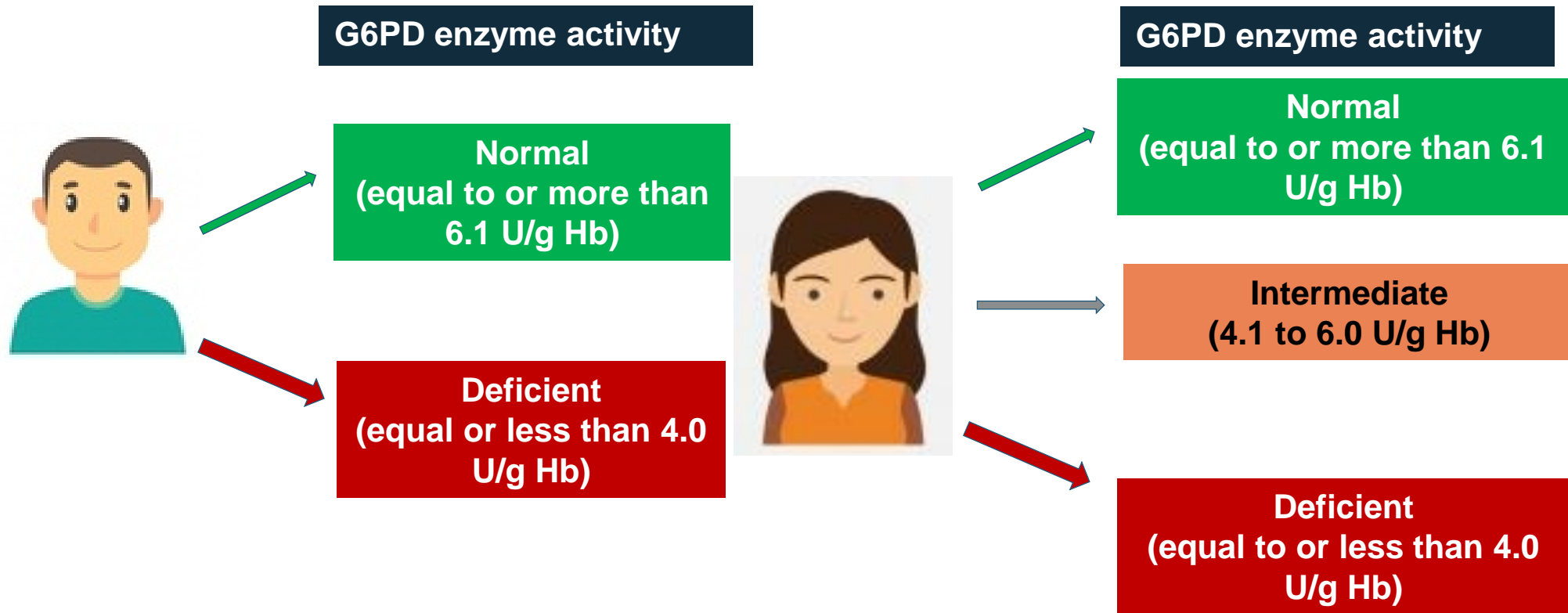
*Not for use in pregnant women or women breastfeeding infants younger than 6 months;

#U/g Hb: Units of G6PD activity per gram of haemoglobin

How do you normally prescribe Primaquine?

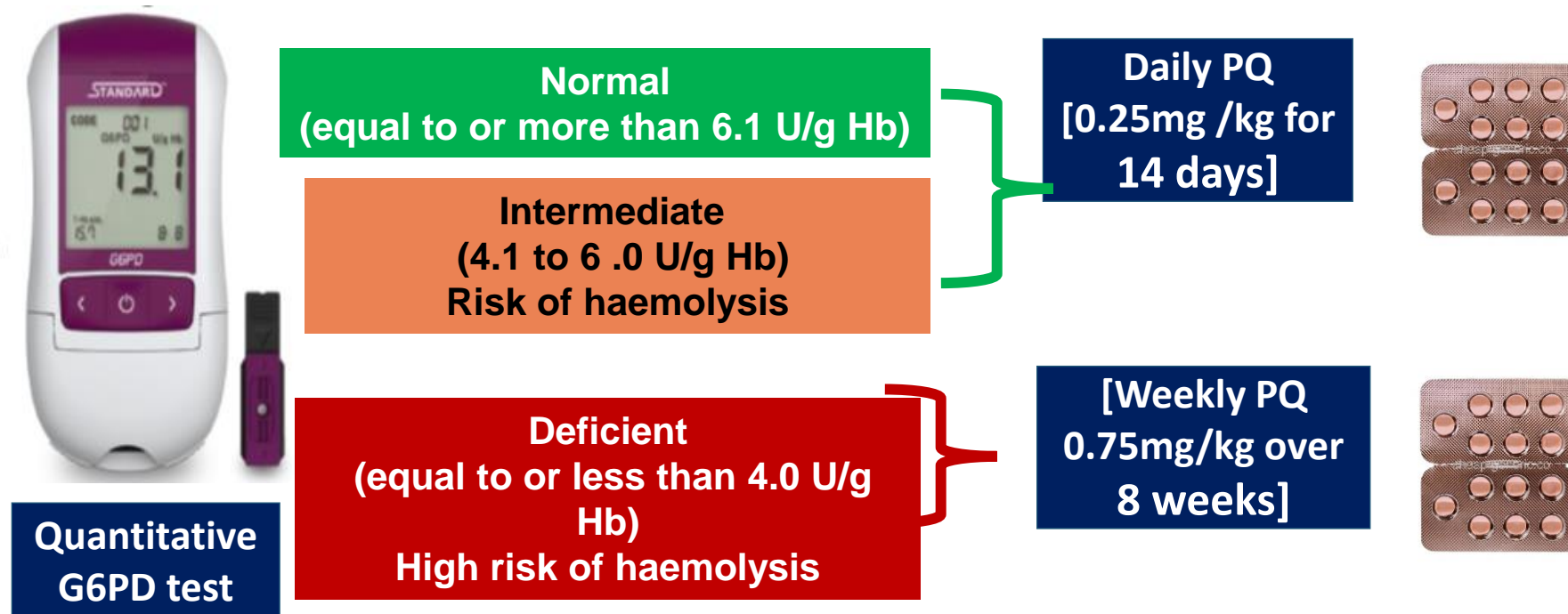


A reminder of G6PD activity by gender



U/g Hb: Units of G6PD activity per gram of haemoglobin

G6PD testing guides the choice of primaquine (PQ)



- G6PD testing minimizes the risk of haemolysis due to the drug
- Patients with low and medium levels of G6PD activity should be educated to recognise warning signs of haemolysis that require medical review

Do you have any questions or concerns about treating patients based on their G6PD activity?

S3(i).1



The importance of knowing your patient's G6PD activity

- **Primaquine is essential to protect patients from relapses / repeated attacks of vivax malaria which can cause anaemia, severe disease and death**
- **Primaquine can cause red blood cells to rupture / burst (haemolysis or AHA*) in patients with less than normal G6PD activity**
- **Knowing the G6PD activity of your patient gives you important information that must be considered when prescribing treatment**

*acute haemolytic anaemia

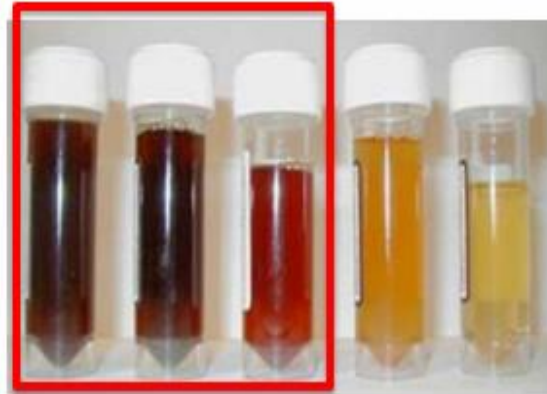
What information do you provide to patients about primaquine treatment normally?

Good patient counselling is important to ensure patients complete their course of treatment:

- Provide information about *P. vivax* and G6PD deficiency
- Ask if they understand what you have explained, and what they think about the guidance you have given
- Advise patients about the potential signs and symptoms of AHA
- Advise patients that if they notice ANY of the signs and symptoms of AHA they should immediately **stop primaquine and report to their health facility**

What are the signs and symptoms you should discuss with patients?

- **The most common sign or symptom of Acute Haemolytic Anaemia is dark urine – with a red or black colour**



Other signs and symptoms of Acute Haemolytic Anemia are:

- Fatigue
- Breathlessness, or shortness of breathe
- Back pain
- Yellowing of the skin or whites of eyes
- Pallor – an unhealthy pale appearance
- Rapid heart rate
- Fever
- Nausea and/or vomiting

Good patient counselling is important to ensure patients complete their course of treatment:

- Ask the patient if they have any concerns or worries about taking their treatment
- For patients taking primaquine - request patients to tell you about their plan to take primaquine over the coming two weeks at home
- Ensure that patients **know to take the medicines with food** to reduce gastrointestinal adverse events (or adverse events).

Frequently Asked Questions activity

S3(i).1

Treatment practical: Mini-scenarios

You are going to be given three scenarios to read and consider how you would respond

- For each scenario write down how you would treat the patient described
- Provide a rationale for your answer
- Be prepared to discuss your answers and rationale with the group

Example mini-scenario

A patient presents at your health facility and is confirmed to have *P. vivax* malaria. She is 15 years old and does not know her G6PD status. She attended your health facility 5 months ago, also with vivax malaria. What is your next step?

- **Answer:** *Do a G6PD test to determine treatment*
- **Rationale:** *We cannot treat a patient without understanding their G6PD status*

Key points to remember:

- The goal of *P. vivax* malaria treatment is to clear both blood and liver stage parasites (radical cure)
- Primaquine (PQ) can cause severe haemolysis in patients with low levels of G6PD activity – this can be prevented by correctly identifying patients who should receive daily PQ
- PQ can be administered to children 6 months or older who are G6PD normal or intermediate (with careful follow-up)
- All patients should be informed about signs of AHA – even those who are G6PD normal.
- Patients with ANY sign of AHA should go to the nearest health facility
- You need to take extra time counselling patients with low / medium G6PD activity.

Any questions?