Appendix 1: Patient Blood Management Questionnaire for Medical Interns

1. The three pillars of Patient Blood Management (PBM) are:
    A. Optimise red cell mass, minimise blood loss, manage medications
    B. Optimise red cell mass, minimise blood loss, manage anaemia
    C. Minimise blood loss, manage anemia, manage medications
    D. Manage medications, manage anemia, optimise cardiopulmonary function
    E. Minimise blood loss, manage medications, optimise cardiopulmonary function.

2. The National Blood Authority (NBA) Australia has developed Patient Blood Management (PBM) guidelines. How many modules to assist and guide healthcare professionals have been published?
    A. 2
    B. 4
    C. 6
    D. 8
    E. 10

3. Patient Blood Management (PBM) practices should be applied:
    A. Preoperatively
    B. Intraoperatively
    C. Postoperatively
    D. As required
    E. A, B, C

4. The World Health Organisation (WHO) classification for anaemia is:
    A. Female: Hb < 8 g/dL, Male < 9 g/dL
    B. Female: Hb < 10 g/dL, Male < 10 g/dL
    C. Female: Hb < 11 g/dL, Male < 12 g/dL
    D. Female: Hb < 12 g/dL, Male < 13 g/dL
    E. Female: Hb < 13 g/dL, Male < 14 g/dL

5. Routine preoperative assessment of patients undergoing elective surgery should ideally be scheduled a minimum of how many days prior to surgery?
    A. 2
    B. 7
    C. 14
    D. 30
    E. 60

6. Preoperative iron therapy should be considered in surgical patients in whom substantial blood loss is anticipated with ferritin levels of:
    A. <100 µg/L
    B. <110 µg/L
    C. <120 µg/L
    D. <130 µg/L
    E. <140 µg/L

7. Intraoperative measures to minimise blood loss include:
    A. Meticulous hemostasis, avoid coagulopathy, use of cell salvage techniques

B. Meticulous hemostasis, avoid coagulopathy, early transfusion of blood products
C. Meticulous hemostasis, early transfusion of blood products, always cross-match preoperatively
D. Early transfusion of blood products, always cross-match preoperatively, use of cell salvage techniques
E. Meticulous hemostasis, avoid coagulopathy, always cross-match preoperatively

8. Initial investigations recommended for preoperative anaemia assessment in surgical patients undergoing procedures in which substantial blood loss is anticipated include:
   A. Full Blood Count, iron studies, troponin, renal function
   B. Full Blood Count, ferritin, CRP, troponin, coagulation studies
   C. Full Blood Count, ferritin, CRP, renal function
   D. Full Blood Count, iron studies, CRP, renal function
   E. Full Blood Count, iron studies, coagulation studies
   F. Full Blood Count, B12/folate levels, CRP, coagulation studies
   G. Full Blood Count, B12/folate levels, reticulocyte count, CRP
   H. Full Blood Count only

9. Which of the following conditions or interventions do not contribute to reduced blood loss?
   A. Laparoscopic surgery, trauma, cirrhosis
   B. Hypothermia, trauma, cirrhosis
   C. Trauma, robotic surgery, laparoscopic surgery
   D. Robotic surgery, hypothermia, trauma
   E. Cirrhosis, laparoscopic surgery, robotic surgery

10. With regards to Haemoglobin (Hb) triggers for perioperative Red Blood Cell (RBC) transfusion, which of the following options are correct?
    i. RBC transfusion should not be triggered by Hb alone
    ii. Patients should not receive a transfusion when Hb level is >100 g/L
    iii. Patients with a Hb level of <70 g/L must receive a blood transfusion
    iv. In the absence of acute myocardial or cerebrovascular ischaemia, postoperative transfusion may be inappropriate for patients with Hb >80 g/L
    v. In postoperative patients with acute myocardial or cerebrovascular ischaemia and a Hb level of 70-100 g/L transfusion of 2 units RBC is appropriate

    A. i, ii, iii
    B. i, iii, iv
    C. ii, iii, v
    D. i, ii, iv
    E. ii, iv, v

11. What is the expected haemoglobin increase after transfusing 1 unit of red blood cells?
    A. 0.3 g/dL
    B. 0.5 g/dL
    C. 0.7 g/dL
    D. 1.0 g/dL
    E. 2.0 g/dL

12. Which of the following are predictors of red blood cell (RBC) transfusion?
    A. Preoperative anaemia, body mass, volume of surgical blood loss

B. Preoperative anaemia, body mass, cardiovascular disease
C. Preoperative anaemia, cardiovascular disease, failure to adopt a more restrictive threshold for transfusion
D. Volume of surgical blood loss, preoperative anaemia, cardiovascular disease
E. Volume of surgical blood loss, preoperative anaemia, failure to adopt a more restrictive threshold for transfusion

13. How can red blood cell mass be optimised? Choose all correct options.
    i. Encourage adequate hydration prior to surgery
    ii. Screen for anaemia and manage underlying disorders
    iii. Instruct all patients to take iron supplements 30 days prior to surgery
    iv. Plan surgery when iron and haemoglobin stores are optimal
    v. Consider drug therapy and interactions which increase risk of anaemia

    A. i, ii, iv
    B. ii, iii, iv
    C. ii, iv, v
    D. i, iii, v
    E. iii, iv, v

14. Postoperative management to increase a patient's tolerance of anaemia aims to maximise oxygen delivery and minimise oxygen consumption. Factors to consider which can increase oxygen consumption include:
    A. Hypothermia
    B. Hypotension
    C. Hypoxia
    D. Altered fluid balance
    E. All of the above

15. Patient Blood Management (PBM) takes an individualised, multidisciplinary approach to the management of a patient's blood, through assessment and the development of a management plan to identify and address comorbidities that might lead to a blood transfusion, minimise blood loss, and optimise tolerance of anaemia. All the following are benefits of appropriate PBM management EXCEPT:
    A. Shorter patient hospital stays
    B. Reduced postoperative pain
    C. Reduced patient exposure to the potential risks from receiving blood and blood products from another person
    D. Faster recovery time
    E. Reduced mortality