

Table 3 Postoperative care and biochemical monitoring

<b>Postoperative care and biochemical monitoring</b>	<b>Grade, Evidence level, Range of evidence</b>
<b>Recommendations</b>	
<ul style="list-style-type: none"> <li>• Specialist postoperative dietetic support should be provided including individualised nutritional supplementation, support and guidance to achieve long-term weight loss and weight maintenance</li> <li>• People who have bariatric surgery should have a postoperative follow-up care package within the bariatric surgery service for a minimum of 2 years. This should include monitoring nutritional intake, dietary and nutritional assessment, advice and support</li> <li>• People discharged from bariatric surgery service follow-up should undergo monitoring of nutritional status at least once a year as part of a shared care model of management</li> </ul>	<p><b>Grade D EL 4</b></p> <p><b>Grade D EL 4</b></p> <p><b>Grade D EL 4</b></p>
<p><b>Urea and electrolytes, renal and liver function tests</b></p> <ul style="list-style-type: none"> <li>• Monitor renal and liver function 3, 6 and 12 months in first year and then at least annually</li> </ul>	<b>GPP</b>
<p><b>Haematinics</b></p> <p><b>Full blood count and ferritin</b></p> <ul style="list-style-type: none"> <li>• Check full blood count and serum ferritin at regular intervals post-surgery</li> <li>• Consider the following frequency of monitoring of full blood count and ferritin levels: three, six and twelve months in the first year and at least annually thereafter so that changes in status may be detected</li> </ul> <p><b>Folate</b></p> <ul style="list-style-type: none"> <li>• Check serum folate levels at regular intervals post-surgery</li> <li>• Consider the following frequency of monitoring of serum folate levels: three, six and twelve months in the first year and at least annually thereafter so that changes in status may be detected</li> </ul> <p><b>Vitamin B12</b></p> <ul style="list-style-type: none"> <li>• Check vitamin B12 levels at regular intervals following SG, RYGB and malabsorptive procedures such as BPD/DS</li> <li>• Consider the following frequency of monitoring of vitamin B12 levels: three, six and twelve months in the first year and at least annually thereafter so that changes in status may be detected</li> </ul>	<p><b>Grade B EL 2 (2+ to 2-)</b></p> <p><b>GPP</b></p> <p><b>Grade B EL 2 (1+ to 2-)</b></p> <p><b>GPP</b></p> <p><b>Grade B EL 2 (2++ to 2-)</b></p> <p><b>GPP</b></p>
<p><b>Vitamin D, calcium and parathyroid hormone</b></p> <p><b>Vitamin D</b></p> <ul style="list-style-type: none"> <li>• Check serum 25-hydroxyvitamin D levels at regular intervals post-surgery</li> <li>• Serum 25-hydroxyvitamin D levels of 75nmol/L or greater are considered sufficient.</li> <li>• Ensure total 25-hydroxyvitamin D (D3 and D2) is measured if patient is on vitamin D2 supplements e.g ergocalciferol</li> </ul>	<p><b>Grade B EL 2 (1+ to 3)</b></p> <p><b>Grade D EL 4</b></p> <p><b>GPP</b></p>

<ul style="list-style-type: none"> <li>Consider the following frequency of monitoring of vitamin D levels: three, six and twelve months in the first year and at least annually thereafter so that changes in status may be detected</li> </ul> <p><b>Calcium</b></p> <ul style="list-style-type: none"> <li>Check serum calcium levels at regular intervals</li> <li>Consider the following frequency of monitoring of serum calcium levels: three, six and twelve months in the first year and at least annually thereafter so that changes in status may be detected</li> </ul> <p><b>Parathyroid hormone</b></p> <ul style="list-style-type: none"> <li>Check parathyroid hormone (to exclude primary hyperparathyroidism) if it has not been checked prior to surgery</li> </ul>	<p><b>GPP</b></p> <p><b>GPP</b> <b>GPP</b></p> <p><b>GPP</b></p>
<p><b>Fat soluble vitamins A, E and K</b></p> <p><b>Vitamin A</b></p> <ul style="list-style-type: none"> <li>Consider checking serum vitamin A levels if patient reports steatorrhoea or symptoms of vitamin A deficiency, for example night blindness or protein malnutrition</li> <li>Check serum vitamin A levels at regular intervals following malabsorptive procedures such as BPD/DS</li> <li>Consider the following frequency of monitoring of serum vitamin A levels following malabsorptive procedures such as BPD/DS: every three months and then annually once levels are stable</li> </ul> <p><b>Vitamin E</b></p> <ul style="list-style-type: none"> <li>Check serum vitamin E levels at regular intervals following malabsorptive procedures such as BPD/DS</li> <li>Consider monitoring of serum vitamin E levels at least annually following malabsorptive procedures such as BPD/DS</li> <li>Check serum vitamin E levels if unexplained anaemia or neuropathy</li> </ul> <p><b>Vitamin K</b></p> <ul style="list-style-type: none"> <li>Check vitamin K1 and PIVKA-II levels at regular intervals following malabsorptive procedures such as BPD /DS</li> <li>Consider monitoring of serum vitamin K1 and PIVKA levels at least annually following malabsorptive procedures such as BPD/DS</li> </ul>	<p><b>Grade D EL 4 (2+ to 4)</b></p> <p><b>Grade B EL 2 (1+ to 2)</b> <b>GPP</b></p> <p><b>Grade B EL 2 (1+ to 2+)</b> <b>GPP</b> <b>Grade D EL 4</b></p> <p><b>Grade B EL 2 (1+ to 3)</b> <b>GPP</b></p>
<p><b>Trace minerals: zinc, copper, selenium and magnesium</b></p> <p><b>Zinc</b></p> <ul style="list-style-type: none"> <li>Check serum/plasma zinc levels at regular intervals following SG, RYGB or BPD/DS</li> <li>Consider monitoring serum/plasma zinc levels at least annually following SG, RYGB or BPD/DS</li> <li>Check serum/plasma zinc levels if unexplained anaemia, hair loss or changes in taste acuity</li> </ul> <p><b>Copper</b></p> <ul style="list-style-type: none"> <li>Check serum copper levels at regular intervals following SG, RYGB or BPD/DS</li> <li>Consider monitoring serum copper levels at least annually following SG, RYGB or BPD/DS</li> <li>Check serum copper levels if unexplained anaemia or poor wound healing</li> </ul>	<p><b>Grade B EL 2 (1+ to 3)</b> <b>GPP</b> <b>GPP</b></p> <p><b>Grade C EL 3 (2- to 3)</b> <b>GPP</b> <b>GPP</b></p>

<ul style="list-style-type: none"> <li>• Serum copper should be monitored in patients taking zinc supplements and vice versa</li> </ul> <p><b>Selenium</b></p> <ul style="list-style-type: none"> <li>• Check serum selenium levels if there is chronic diarrhoea, metabolic bone disease, unexplained anaemia or unexplained cardiomyopathy</li> <li>• Check serum selenium levels at regular intervals following RYGB</li> <li>• Check serum selenium levels at regular intervals following malabsorptive procedures such as BPD/DS</li> <li>• Consider monitoring serum selenium levels at least annually following RYGB or malabsorptive procedures such as BPD/DS</li> </ul>	<p><b>GPP</b></p> <p><b>Grade D EL 4</b></p> <p><b>Grade D EL 2 (2-)</b>  <b>Grade C EL 2 (2+)</b>  <b>GPP</b></p>
<p><b>Thiamine</b></p> <ul style="list-style-type: none"> <li>• If the patient presents with rapid weight loss, poor dietary intake, vomiting, alcohol abuse, oedema or symptoms of neuropathy, initiate treatment for thiamine deficiency immediately. Do not delay pending blood results</li> </ul>	<p><b>GPP</b></p>
<p><b>HbA1c, lipids</b></p> <ul style="list-style-type: none"> <li>• Monitor HbA1c in patients with preoperative diabetes</li> <li>• Monitor lipids in patients with preoperative dyslipidaemia</li> </ul>	<p><b>GPP</b>  <b>GPP</b></p>

EL=Evidence level and depicts where the majority of evidence lies. GPP =Good practice point. AGB= adjustable gastric band, SG=sleeve gastrectomy, RYGB=Roux-en-y gastric bypass, BPD/DS=duodenal switch, PIVKA-II= Protein Induced by Vitamin K Absence or antagonism