

Syllabus	PB_IK_38, EN_IK_01, EN_IK_09
Topic	Thyroid surgery



**a)** Above is a CT neck of a 42 year old lady who is listed for total thyroidectomy. What is the abnormality shown above? (2 marks)

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**b)** Preoperatively she has thyroid function tests, the results are as follows:

TSH	0.2 mU/L
ft4	39.7 pmol/L
ft3	11.2 pmol/L

What do the thyroid function tests show? (1 mark)

.....

**c)**

List two causes of the above findings? (2 marks)

1. ....
2. ....

**d)**

With the thyroid function test abnormality in mind, list 3 signs you may find on examination. (3 marks)

1. ....
2. ....
3. ....

**e)**

The patient is now clinically euthyroid. List 4 symptoms you may expect from a patient with that CT scan that would concern you with regards to induction of anaesthesia. (4 marks)

1. ....
2. ....
3. ....
4. ....

**f)**

The patient is anaesthetised uneventfully and surgery proceeds. You are asked to see the patient in recovery as she has developed perioral tingling and twitching. What is the likely reason for such symptoms? (1 mark)

.....

**g)**

On PACU, the patient becomes dyspnoeic and agitated. Her neck appears swollen. You suspect a neck haematoma. List three OTHER causes for post-operative respiratory distress specific to thyroid surgery. (3 marks)

1. ....
2. ....
3. ....

**h)**

The neck swelling continues to increase in size and the patient develops inspiratory stridor. List your immediate management priorities in this case. (4 marks)

1. ....
2. ....
3. ....
4. ....

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Q	Answer	Mark	Guidance
a)	<ul style="list-style-type: none"> <li>• Large, multinodular goitre</li> <li>• With retrosternal extension</li> </ul>	1 1	
b)	<ul style="list-style-type: none"> <li>• Hyperthyroidism</li> </ul>	1	
c)	<ul style="list-style-type: none"> <li>• Grave's disease</li> <li>• Multinodular thyroid</li> <li>• Hashimoto's thyroiditis</li> <li>• Subacute/de Quervain's thyroiditis</li> <li>• Toxic thyroid adenoma</li> <li>• Pituitary adenoma causing TSH hypersecretion</li> </ul>	Any 2	
d)	<ul style="list-style-type: none"> <li>• Fine tremor</li> <li>• Tachycardia/AF</li> <li>• Sweating</li> <li>• Palmar erythema</li> <li>• Proximal myopathy</li> </ul>	3	1 mark for each
e)	<ul style="list-style-type: none"> <li>• Positional breathlessness</li> <li>• Dysphagia</li> <li>• Stridor</li> <li>• Voice change</li> </ul>	4	1 mark for each
f)	Hypocalcaemia secondary to removal of the parathyroid glands	1	
g)	<ul style="list-style-type: none"> <li>• Laryngeal oedema</li> <li>• Laryngospasm post extubation</li> <li>• Tracheomalacia</li> <li>• Recurrent laryngeal nerve palsy (unilateral or bilateral)</li> <li>• Pneumothorax</li> </ul>	3	1 mark for each (Note question doesn't specify time of other causes of respiratory distress so have included both immediate + more delayed complications) Complication of retrosternal dissection
h)	<ul style="list-style-type: none"> <li>• Administer 100% oxygen</li> <li>• Removal of surgical clips/sutures to release haematoma</li> <li>• Sit patient up</li> <li>• Plan to return to theatre</li> <li>• Consider early reintubation – anticipate difficult airway/prepare difficult airway equipment/smaller ETT than previous intubation</li> </ul>	4	Any 4 (1 mark for each)  Clips removed expeditiously in theatre or at bedside if patient in extremis

	<ul style="list-style-type: none"><li>• ENT surgeon on standby for awake tracheostomy</li></ul>		
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References:

1) Anaesthesia for thyroid and parathyroid surgery BJA Education article (2007) -

<https://academic.oup.com/bjaed/article/7/2/55/384313>

2) See two thyroid questions in 'CRQs for the Final FRCA' by Akuji, Martin, Chambers and Thomas