

Syllabus	
Topic	Intensive care unit acquired weakness

a)

Define intensive care unit (ICU) acquired weakness (ICUAW) (2 marks)

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b)

List the 3 classifications of ICUAW (3 marks)

- 1)
- 2)
- 3)

c)

Give 4 risk factors for the development of weakness in ICU patients. (4 marks)

- 1)
- 2)
- 3)
- 4)

d)

List 4 clinical features of ICUAW (4 marks)

- 1)
- 2)
- 3)
- 4)

e)
Give 2 parameters that are measured as part of nerve conduction studies (2 marks)

1)

2)

f)
List 2 other clinical investigations that maybe performed for the diagnosis and differentiation of ICUAW (2 marks)

1)

2)

g)
Give 3 options for the management of ICUAW (3marks)

1)

2)

3)

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	Answer	Marks	Guidance
a)	<ul style="list-style-type: none"> • <u>Clinically detectable weakness</u> in a critically ill patient that is <u>not pre-existing</u> and with no other aetiology other than critical illness. 	2	Must include clinically detected & not pre-existing or similar wording.
b)	<ul style="list-style-type: none"> • Critical illness polyneuropathy (CIP) (<i>affecting nerves</i>) • Critical illness myopathy (CIM) (<i>affecting muscle</i>) • Critical illness neuromyopathy (CINM) (<i>affecting both</i>) 	1 1 1	
c)	<p><u>Probable risk factors:</u></p> <ul style="list-style-type: none"> • Severe sepsis or septic shock • Multi-organ failure • Prolonged mechanical ventilation (>7days) & bed rest • Hyperglycaemia <p><u>Possible risk factors:</u></p> <ul style="list-style-type: none"> • Increasing age • Female gender • Severity of illness • Hypoalbuminaemia • Renal replacement therapy • Vasopressors • Use of high dose corticosteroids • Neuromuscular blocking agents • Aminoglycosides • Requirement for parenteral nutrition • Drug induced encephalopathy 	1 mark for each (Max. 4 marks)	

d)	<u>Clinical features include:</u> <ul style="list-style-type: none"> • Onset of after acute ICU admission or critical illness for a week or more • Generalised symmetrical flaccid weakness • Muscle atrophy • Hyporeflexia • Sparing of cranial nerves/facial muscles • Muscle power of Medical Research Council (MRC) sum score of less than 48 • Dependence on mechanical ventilation • Causes of weakness not related to the underlying critical illness have been excluded. • Facial grimacing without limb movement in response to painful stimuli 	1 mark for each (Max. 4 marks)	Autonomic function is not affected.
e)	<ul style="list-style-type: none"> • Compound motor action potentials (CMAPs) • Sensory nerve action potentials (SNAPs) • Nerve conduction velocities 	1 mark for each (Max. 2 marks)	
f)	<ul style="list-style-type: none"> • Creatine kinase • Lumbar puncture, • MRI of brain/spinal cord. • Electromyography (EMG) • Muscle biopsy • Nerve biopsy • Autoantibodies 	1 mark for each (Max. 2 marks)	
g)	<ul style="list-style-type: none"> • Reduce risk factors • Glycaemic control (Keep BM 6-10mmol) • Daily sedation holds • Early mobilisation • Physiotherapy • Good nutrition 	1 mark for each (Max. 3 marks)	

References

- 1) Appleton R, Kinsella J. Intensive care unit - acquired weakness. CEACCP (2012) 12(2)62-66
<https://academic.oup.com/bjaed/article/12/2/62/251187>
- 2) Combeer E. The final FRCA short answer questions – a practical study guide. Masterpass (2013)