

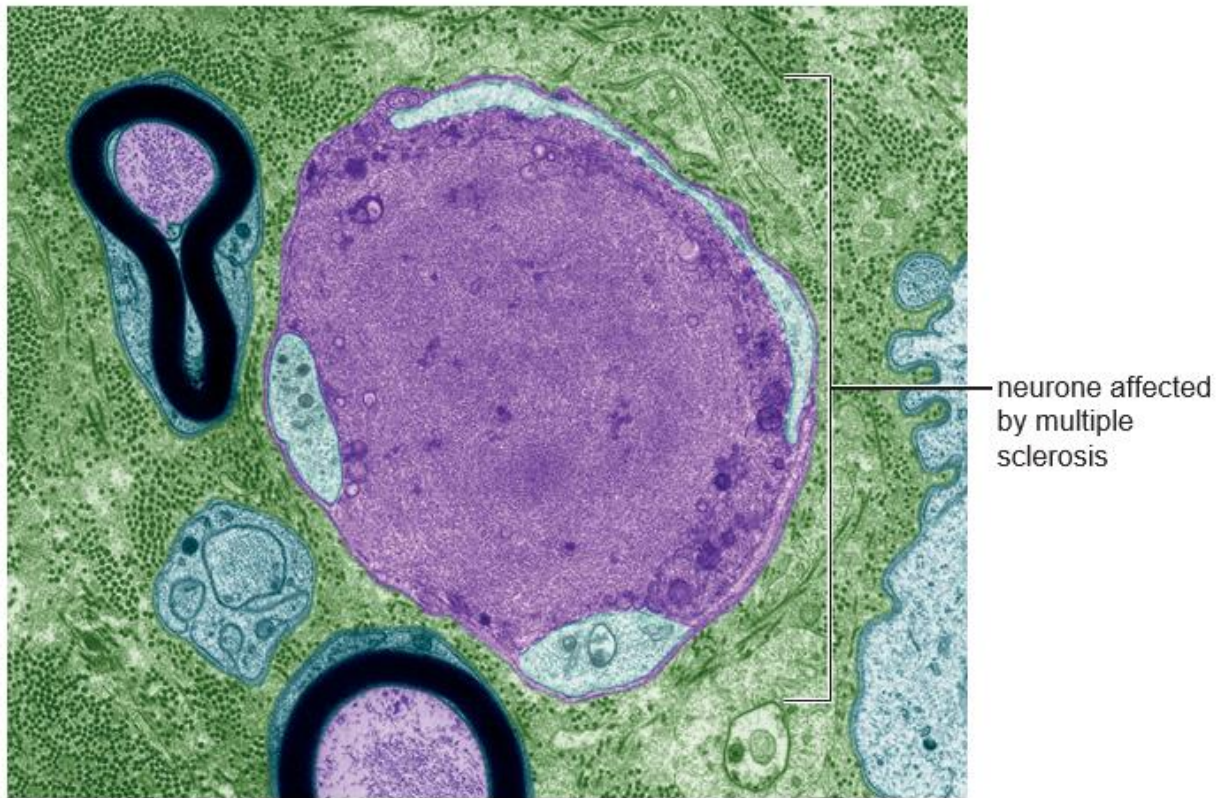
A level Biology A
H420/03 Unified biology

Question Set 5

1 Multiple sclerosis (MS) is an autoimmune disease that damages the nervous system.

(a) (i) Suggest how the immune system causes damage to the nervous system. [2]

(ii) Fig. 5 shows three neurones of different sizes from a person with MS.



Key

purple = axon
light blue = Schwann cells
black = myelin sheath

Fig. 5

One of the neurones has been affected by MS.

MS causes changes to neurones, which reduce the speed at which nervous impulses are conducted.

Using information from Fig. 5, what can you conclude about how MS causes a reduction in the speed of nervous impulses? [2]

(b) Guillain–Barré syndrome is another autoimmune condition in which neurones are damaged and the rate of nervous impulses is reduced.

MS affects the central nervous system.

Guillain–Barré syndrome affects the peripheral nervous system.

(i) Suggest **two** symptoms of MS that might **not** be present in people with Guillain–Barré

syndrome.

Explain your answers.

[2]

- (ii) Multiple sclerosis and Guillain–Barré syndrome both cause muscle weakness and loss of muscle function.

Suggest and describe how the function of neuromuscular junctions will be affected by multiple sclerosis and Guillain–Barré syndrome.

[2]

Total Mark for Questions Set 5: 8

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