# Stem Cell Transplant in Multiple Sclerosis

# Student name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Due date \_\_\_\_\_\_\_\_\_\_\_ \_\_/25

Multiple Sclerosis (MS) is a disease that affects the nervous tissue of the body.

In this investigation you are expected to find out about Multiple Sclerosis. You should relate what your have learned about nerve cell structure to what happens with the disease. You should state cause, symptoms and current treatment**.**

There has been talk about the use of stem cells in treating some diseases. One stem cell treatment currently in use for MS use autologous haematopoietic stem cells (HSCs). What is HSC treatment?

The assignment should have an introductory paragraph, a paragraph for each aspect of the answer and final conclusion paragraph.

You will need to state at least 3 references. You should use the correct referencing.

The assignment can be typed or hand written, but it must be legible.

Marking key

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| Part | Answer | Mark |  |
| Introductory paragraph | Topic sentence and list of key points to be looked at | 2 |  |
| Cause | Exact cause of MS is not known,  Genetic factors may contribute  So might environmental factors  Immune system attacks neurons  Myelin sheath damaged  Transmission of electrical signals along axons is impaired | 1  1  1  1  1  1 |  |
| Symptoms | There is no typical MS. Most people with MS will experience more than one symptom listed below:  Should state any 4 of the list below  Numbness or weakness in one or more limbs that typically occurs on one side of your body at a time, or the legs and trunk  Partial or complete loss of vision, usually in one eye at a time, often with pain during eye movement  Prolonged double vision  Tingling or pain in parts of your body  Electric-shock sensations that occur with certain neck movements, especially bending the neck forward  Tremors, lack of coordination or unsteady gait  Slurred speech  Fatigue  Dizziness  Problems with bowel and bladder function  Balance and coordination problems  Spasticity: altered muscle tone can and muscle stiffness can affect mobility and walking, spasms.  Sexuality and intimacy: impotence, diminished arousal, loss of sensation.  Sensitivity to heat: this symptom very commonly causes a transient worsening of symptoms.  Cognitive and emotional disturbances: loss of short-term memory, loss of concentration, judgment or reasoning. | 1  4 |  |
| Current treatment | No cure  Treatment tries to speed up recovery from attack  **Corticosteroids drugs**  **Plasma exchange (plasmapheresis).**  **Medications to inhibit immune response** | 1  1  1  1  1 |  |
| HSCs | Adult stem cells from the blood or bone marrow(HSCs) are  taken from the patient’s own blood or bone marrow.  Chemotherapy is used to inhibit the patient’s immune system.  HSCs are transplanted into the body to replace immune system cells that are less likely to attack neurons.  or  HSCs are transplanted into Nervous tissue to where they can grow and replace damaged neurons. | 1  1  1  1 |  |
| References |  | 3 |  |
| Total | | 25 |  |