

Myelodysplastic Syndromes

Myelodysplastic Syndromes (MDS) are a group of blood cancers in which mutations prevent the bone marrow from properly making blood stem cells that form healthy blood cells.

What is MDS?



In healthy people, bone marrow is responsible for making blood stem cells, which eventually form into healthy blood cells. Low blood cell counts, known as **cytopenias**, are known as a **defining feature of MDS**.

Three types of blood cells are needed for different functions in the body. All three are affected by MDS:



Red blood cells (RBCs) work to bring oxygen from the lungs to the rest of the body



White blood cells (WBCs) help the body fight off infections



Platelets help the blood clot after an injury

Symptoms

Many symptoms of MDS can be life-threatening:



Anemia (low RBC count) can cause fatigue, weakness and shortness of breath



Neutropenia (low WBC count) can cause recurring infections, fevers and sore mouth



Thrombocytopenia (low platelet cell count) can cause easy bruising, bleeding from the nose and mouth and a rash of small red dots on the skin

Due to this lack of mature RBCs, many patients with MDS experience severe chronic anemia, eventually requiring frequent red blood cell transfusions

Risk Factors



Older age



Prior cancer treatment



Family history



History of smoking



Exposure to high dose radiation or workplace benzene

Treatment

Treatment options depend on the needs of the individual patient. Some treatment options include:



Supportive care such as blood transfusions and erythropoiesis-stimulating agent (ESA) therapy



Chemotherapy



Stem cell transplant

It is important for people with MDS to understand the symptoms of their disease and to talk to a healthcare professional about appropriate treatment options.

Canadian Incidence



Approximately **3,850** new cases of MDS are diagnosed every year



Median age at diagnosis: approximately **76** years old



Overall incidence of MDS is slightly higher in **males** than in females

However, the incidence of MDS is considered to be underestimated due to lack of reporting and under-diagnosis

Prognosis

For the most severe forms of MDS, a patient's lifespan may be:

~5 months

For lower risk MDS, a patient's lifespan may be:

~6 years



For **>30%** of patients with MDS, their disease may progress to a deadly blood cancer called **Acute Myeloid Leukemia (AML)**.