

**A unifying voice for the
Australian MPN Community**



MPN Alliance Australia
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What is a Myeloproliferative neoplasm (MPN)?

Myeloproliferative neoplasms (MPNs) are a group of progressive blood cancers caused by a mutation in the blood's stem cells, which affect normal blood cell production in the bone marrow. In this case the bone marrow causes an overproduction of one or more blood cell types (red cells, white cells or platelets). Complications arise due to the abnormally high number of blood cells that accumulate in the bone marrow and in the circulating blood.

Untreated MPNs are likely to lead to stroke, heart attack and other very damaging blood clots or bleeding events. As the disease progresses, patients can also suffer from extremely enlarged spleens and their bone marrow can become very fibrous, leading to the inability to produce blood cells in sufficient quantity, leading to severe anaemia, low immunity, and poor clotting ability.

There are six different types of MPN. They are generally distinguished from each other by the type of cell which is most affected. These are:

- *Polycythemia vera* - an overproduction of red blood cells (and/or white cells and platelets)
- *Idiopathic myelofibrosis* - a condition in which bone marrow tissue is gradually replaced by fibrous scar-like tissue, disrupting normal blood cell production.
- *Essential thrombocythemia* - overproduction of platelets
- *Chronic myelomonocytic leukaemia* (CMML) - overproduction of white cells (granulocytes)
- *Chronic neutrophilic leukaemia* - overproduction of neutrophils (a type of white cell)
- *Chronic eosinophilic leukaemia* - overproduction of eosinophils (a type of white cell)

Each year in Australia more than 600 people are diagnosed with MPN - the equivalent of 11 Australians every week.

A MPN can affect anyone of any age. There is no cure except a bone marrow transplant, which is in itself a risky option, and only suitable for a very small minority of patients with advanced disease. More and more children and young adults are being diagnosed with a MPN. There are a very limited number of treatment options, which cause considerable side effects. In many cases these diseases develop slowly and get worse gradually. The chronic nature of MPN presents ongoing problems for patients. For many, the high symptom burden is significant and impacts on their daily life, and can impact life expectancy. In some cases myeloproliferative neoplasms can progress to acute myeloid leukaemia and results in a very poor outcome.

The most common symptoms reported in patients with MPNs are debilitating fatigue, headache, concentration problems, dizziness, weakness, inactivity, night sweats, itching, abdominal discomfort, bone pain, weight loss, enlarged liver and spleen, bruising and skin redness and fevers.