

Understanding MPNs

Your guide to understanding more about MPNs

This document was produced and funded by Novartis Pharmaceuticals UK Limited as part of the Meet the MPN 10 disease awareness campaign. It is intended for those that have been diagnosed with a myeloproliferative neoplasm (MPN) and should not be considered an alternative to advice from a healthcare professional.

MPN = myeloproliferative neoplasm



MPNs are a group of blood cancers that affect the bone marrow and the production of different blood cells.¹

The World Health Organisation (WHO) classes MPNs as a type of blood cancer. **The three main types of MPNs are:¹**

MF = myelofibrosis

Scar tissue forms in the bone marrow, which stops efficient production of blood cells, such as red blood cells, and can result in anaemia (low red blood cell numbers or less haemoglobin).

PV = polycythaemia vera

Too many red blood cells are made, which makes it harder for blood to flow smoothly around the body and increases the risk of blood clots.¹

ET = essential thrombocythaemia

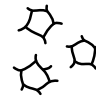
Too many platelets are made, which means there's a higher risk of developing blood clots.



Red blood cells (RBCs) carry oxygen around the body¹



White blood cells (WBCs) are part of the body's immune system and help to fight infections¹



Platelets help with clotting and wound healing¹

Monitoring your MPN

may involve regular full blood count (FBC), tests which measure^{1*}:



		MF	PV	ET
	RBC count The number of red blood cells per volume of blood ²	May be decreased	May be increased	
	WBC count The number of white blood cells per volume of blood ³	May be decreased	May be increased	
	Platelet count The number of platelets per volume of blood ⁴	May be decreased	May be increased	May be increased
	Haematocrit (HCT) The amount of space that red blood cells are taking up in the blood ⁵		May be increased	
	Mean platelet volume (MPV) The average size of platelets ⁶			May be increased

*Not a complete list of measurements of a full blood count.

Your treatment

will be decided by your healthcare professional, depending on the type of MPN you have and your symptoms.

Examples include:¹



Watch & wait

Regular monitoring, check-ups and lifestyle management



Venesection (PV only)

Removes blood if you have too many red blood cells



Medication

Helps relieve uncomfortable symptoms



Stem cell transplant

Restores bone marrow

The MPN 10

The most common symptoms

people living with an MPN experience are:⁷



Abdominal pain

Pain or uncomfortable feeling around the gut or stomach



Fatigue

Extreme tiredness impacting the ability to function day-to-day



Inactivity

Being unable to do tasks or exercise like you normally would



Bone pain

Widespread bone, joint and body pain, different from joint pain/arthritis



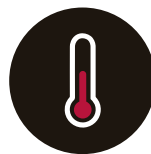
Unintentional weight loss

Sudden or unintentional weight loss due to other MPN symptoms



Early satiety

Feeling full quickly when eating



Fever

A temperature over 37.8°C



Pruritus / Itching

Having uncomfortable, itchy skin



Concentration issues

Difficulty concentrating or thinking clearly



Night sweats

Sweating through your pyjamas and even bedding when trying to sleep. Uncomfortable night sweats causing discomfort and disturbance to sleep patterns

You're not alone!

MPNs are rare, so you may not know anyone else with the same condition as you, which can feel isolating and lonely. However, there are **other people living with MPNs** experiencing similar symptoms and emotions as you.

Find a support community of other people living with MPNs at: mpnvoice.org.uk

References: **1.** Blood Cancer UK (2020) Myeloproliferative neoplasms (MPN). [PDF] Available at: <https://bcuk.cdn.ngo/documents/Myeloproliferative-neoplasms-Blood-Cancer-UK-info-booklet.pdf>. Accessed: August 2024. **2.** NHS (2022). Red blood cell count. Available at: <https://www.nhs.uk/conditions/red-blood-count/>. Accessed: August 2024. **3.** Blumenreich MS. The White Blood Cell and Differential Count. Clinical Methods: The History, Physical, and Laboratory Examinations. 3rd ed. Boston: Butterworths; 1990. Chapter 153. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK261/>. Accessed: August 2024. **4.** University of California San Francisco (2024). Medical Tests. Platelet count. Available at: <https://www.ucsfhealth.org/medical-tests/platelet-count>. Accessed: August 2024. **5.** American Red Cross (2024). What Does Hematocrit Mean? Available at: <https://www.redcrossblood.org/donate-blood/dlp/hematocrit.html>. Accessed: August 2024. **6.** Korniluk A, Koper-Lenkiewicz OM, Kamin'ska J, Kemona H, Dymicka-Piekarska V. Mean Platelet Volume (MPV): New Perspectives for an Old Marker in the Course and Prognosis of Inflammatory Conditions. *Mediators Inflamm.* 2019;2019:9213074. doi: 10.1155/2019/9213074. **7.** MPN Voice (2024). Keeping track of symptoms. Available at: <https://www.mpnvoice.org.uk/living-with-mpns/ways-to-feel-better/keeping-track-of-symptoms/>. Accessed: August 2024.

