Low Platelets and ITP

What this leaflet is about: what platelets do, why a low count causes bruising and bleeding, and how immune thrombocytopenia is treated.

> Quick emergency advice
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> Get medical help immediately for a severe headache, drowsiness, weakness or numbness on one side of the body, blurred vision or loss of vision, vomiting blood, or black or bloody stools.
> These can be signs of bleeding inside the skull or inside the body, and they need to be assessed today. Call the clinic on Tel: +60 3 4289 5000 or Tel: +60 3 4270 2500, or go to the emergency department.

What are platelets?

Platelets are one of the three main types of blood cell, alongside red cells and white cells. They are very small fragments made by the bone marrow, and their job is to plug small leaks in the walls of blood vessels. When a blood vessel is cut, the platelets gather at the site, stick together, and help the blood to form a firm clot that stops the bleeding.

Each platelet lives for about 5 to 7 days in the bloodstream, and the marrow makes a steady replacement supply. The normal platelet count is between 150,000 and 400,000 per microlitre of blood.

When the platelet count falls too low, the small everyday knocks and bumps that never bother anyone else start to make bruises, and small bleeds take much longer to stop. In severe immune thrombocytopenia, or ITP, the count is often below 10,000 to 20,000 per microlitre.

How low is too low?

As a rough guide, a count above 30,000 per microlitre is relatively safe against bleeding into the brain, in most cases. This is why that figure appears again and again in the treatment of ITP. It is a guide, not a guarantee: other factors matter too, including how long the count has been low, whether you are taking medicines that also affect clotting, and whether you have any other condition.

How does a low platelet count feel?

The signs of a low platelet count are mostly on the skin and in the mucus membranes, because those are the places with the most small blood vessels and the most everyday contact with the outside world.

- Bruising easily, for no clear reason, and bruising in unusual places such as the legs, the back of the calves, the elbows and the knees.
- Small red or purple spots on the skin that do not fade when you press them. These are called petechiae, and they often appear first on the legs and around the ankles.
- Bleeding from the gums, sometimes for a long time after a small cut, or blood in the mouth when brushing the teeth.
- Blood in the urine, which may make it look dark, cola-coloured or smoky.
- Blood in the stool, or black, tarry stools - black stools are much more worrying than bright red blood.
- Heavier and longer-lasting periods than usual, or bleeding between periods.
- Nosebleeds that take a long time to stop, or that happen without being knocked.

In women, menstrual bleeding is often the first thing to notice, and it is the change that most often brings ITP to medical attention.

What causes a low platelet count?

There are two broad mechanisms. Knowing which one applies to you matters, because the treatment is completely different.

1. Too few platelets being made

The bone marrow is not producing enough platelets. This can happen when the marrow itself is filled or disturbed by disease - for example marrow infiltration, leukaemia, myelodysplastic syndrome, lymphoma or myeloma. It can also happen when certain medicines or chemotherapy temporarily slow down the marrow, or after certain viral infections.

If your platelets are low because the marrow is not making enough, the treatment has to treat that underlying cause. A platelet transfusion is sometimes needed urgently, but it is a short-term measure, not a treatment for the cause.

2. Platelets being destroyed too quickly

The marrow makes a normal number of platelets, but something is destroying them faster than they can be replaced. This is what happens in immune thrombocytopenia, or ITP: the immune system makes antibodies that attach to the person's own platelets and remove them from the circulation. This is the commonest cause of a low platelet count in an otherwise well person.

Increased destruction also happens in cirrhosis and other liver conditions, where the spleen holds on to platelets, and it can be caused by drugs, by herbal and traditional medicines, by alcohol, and by viral infections such as dengue fever. If you take any supplements, traditional remedies or over-the-counter medicines, please tell us - it is genuinely useful information.

What should I do?

- Have your platelet count repeated. A single unexpectedly low result should be checked, because it can be caused by a blood sample taken from a difficult vein, or by a lab artefact, and because the count may have recovered by the next day.
- Arrange to see a haematologist. There are many possible causes and they are treated in very different ways, so a proper assessment of the whole blood count and the film is needed.
- Write down your platelet count each time it is tested, and bring the list with you. The trend over weeks is often more useful than one single number.
- Tell us straight away if you start any new medicine, including something bought from a pharmacy or a traditional supplier.

What to avoid while your count is low

- Strenuous activity, contact sport, heavy lifting and anything else with a real risk of a knock, while your count is low.
- Alcohol, which both affects the platelet count and worsens bleeding.
- Aspirin, ibuprofen, diclofenac, and any other anti-inflammatory pain killer - these make bleeding worse.
- Clopidogrel and other antiplatelet medicines, unless they have been specifically prescribed by us.
- Any over-the-counter medicine or herbal remedy that you have not checked with us first. Many are perfectly safe, but some are not, and we cannot tell you which without knowing what they contain.
- Injectable/intramuscular injections without checking with us, and razors - use an electric shaver and take care when shaving.

How is ITP treated?

The treatment of ITP is aimed at keeping the platelet count above roughly 30,000 to 50,000 per microlitre, which is the level at which bleeding into the brain becomes very unlikely and everyday life can be lived normally. It is not usually aimed at making the count completely normal, because the medicines that do that have their own side effects.

Some people with a mild ITP, who have few or no symptoms, are simply monitored with regular blood tests and are not given any treatment at all. The treatment chosen depends on the severity, the symptoms, the age and general health, and whether the person is pregnant or planning a pregnancy.

Treatment	How it works and what to expect
Corticosteroids (for example prednisolone)	The mainstay of first-line treatment. They reduce the immune attack on the platelets, and the count usually rises within a few days. They work quickly but are not ideal long term because of side effects such as weight gain, high blood sugar, bones thinning and mood changes, so they are usually tapered and reduced as soon as possible.
Intravenous immunoglobulin (IVIg)	A pooled blood product given as a drip into a vein, usually over 1 to 2 days. The count often rises very quickly, which makes it very useful when bleeding is happening now, or before an operation or a procedure. The effect is temporary.
Anti-D immunoglobulin	Used in suitable patients who are Rh D positive and whose spleen has not been removed. It can raise the count quickly, is cheaper than IVIg, and is often preferred in a first episode.
Rituximab	An antibody that switches off part of the immune system, reducing the immune attack on the platelets. It is used for ITP that does not respond to steroids, or to reduce the need for steroids. The response takes several weeks to develop.
Splenectomy (removal of the spleen)	The spleen holds on to and destroys platelets, so removing it can raise the count. It is normally considered only when other treatments have not worked, and it is not a first-line choice because it has its own lifelong consequences.
TPO receptor agonists (for example eltrombopag / Revolade, and romiplostim / Nplate)	These medicines imitate the hormone that tells the marrow to make more platelets, so the count rises without a general suppression of the immune system. They are taken as tablets or injections, and are generally reserved for ITP that has not responded to other treatments.
Other immunosuppressants	Medicines such as azathioprine, ciclosporin and mycophenolate are sometimes used when the options above have not worked, and also in some types of inherited thrombocytopenia.

You will not need most of these medicines. Your haematologist will choose what is right for your situation, and the aim is always the lowest effective treatment for the shortest time that works.

Surgery to remove the spleen

Removing the spleen can raise the platelet count for a long time, but it is a major operation with lifelong consequences, so it is reserved for carefully selected patients.

- A sustained long-term response, meaning the platelet count stays raised without further treatment, occurs in about 66 percent of patients.
- Short-term complications, meaning problems around the time of the operation such as infection, bleeding or a blood clot, occur in about 12.9 percent of patients.
- Long-term there is an increased risk of infection, particularly with encapsulated bacteria such as pneumococcus, meningococcus and Haemophilus influenzae. This is why vaccinations before and after the operation are so important.
- There is also a small long-term increase in the risk of thrombosis, and of accelerated atherosclerosis, so ongoing follow-up is needed.

ITP and pregnancy

Many women with ITP have healthy babies. The main concerns during pregnancy are a low platelet count in the mother, around delivery, and the fact that the mother's anti-platelet antibodies can cross the placenta. This can cause a low platelet count in the baby, which is usually temporary and usually resolves as the baby's own marrow takes over, but it does mean the baby needs to be checked after birth. For this reason an obstetrician and a haematologist should both be involved, and the delivery plan is made in advance.

When to contact us

If you are worried about yourself, or about the person you are caring for, please get in touch. We would always much rather hear from you early than late. If you have read something in this leaflet that worries you, that is a good reason to telephone us, even if you feel well.

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If you cannot reach us, or you are very unwell

Please go to the emergency department of KPJ Ampang Puteri Specialist Hospital, or call the emergency ambulance service. Do not wait for a routine appointment, and do not wait for a reply to an email.

Important medical disclaimer

This leaflet is written for patients and their families and carers. It is general patient education only. It is not a substitute for medical advice, and it is not a substitute for the diagnosis and treatment that your own haematologist, nurse, pharmacist or doctor will give you.

Nothing in this leaflet should be used to change, stop or start a medicine, a test or a treatment. If anything you read here is different from what your healthcare team has told you, follow your healthcare team and ask us about the difference.

Information about medicines names, strengths, test turnaround times and supportive care is current at the time this leaflet was prepared. It may be updated from time to time, and the version printed here may therefore not be the newest one. Please ask reception for the current copy.

If you think that you or someone you care for is seriously unwell, do not wait for an appointment and do not wait for this leaflet to be read. Contact the clinic, or go to the emergency department of KPJ Ampang Puteri Specialist Hospital, straight away.

We Listen. We Care. Evidence-based Medicine.