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Title: **Surgery in the Patient with ITP**

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Questions are often raised about the safety of various surgical procedures in persons with ITP. This brief essay will review this subject and provide some guidelines and recommendations.

Some surgical procedures are undertaken because the patient has ITP. By far the most common of these is splenectomy, aimed at raising or normalizing the platelet count in the person with ITP whose disease has been persistent and troublesome. The subject of splenectomy has been covered in previous essays and is familiar to most ITP patients. It is often performed now by the laparoscopic (keyhole) technique and can be undertaken safely following efforts (described below) to raise the platelet count during and following the procedure. Splenectomy usually, but unfortunately not always, results in a rise in platelet count to levels at which bleeding becomes less prominent.

But what about those surgical procedures which are not necessarily performed because the patient has ITP? In most respects, people with ITP are no different from anyone else, so they occasionally require minor surgeries such as tooth extractions, repair of lacerations, biopsies of lumps (in the breast, neck, prostate gland or other organs) or hernia repairs. Also, on occasion, ITP patients may need major surgery, such as replacement of an arthritic hip, removal of the gallbladder or other abdominal surgery, or even an open-heart procedure. What are the risks of bleeding in these circumstances, and what special precautions should be taken?

The major concern when performing surgery on a person with ITP is bleeding during or following the operation. Fortunately, serious bleeding is uncommon in the ITP patient. Given that their platelets are large and “sticky”, a totally normal platelet count (> 150,000 per mm3) is not required to prevent bleeding and promote healing. If one is willing to accept slight surgical bleeding that can be easily controlled by pressure or other surgical techniques, a platelet count of 50,000 per mm3 is suitable, even for major operations. For minor surgeries (such as those addressed above), a platelet count of 20,000 to 30,000 per mm3 usually suffices. However, for delicate operations involving the eye, heart, or brain, for example, even a slight amount of excessive bleeding is not desired, so here achievement (at least transiently, during the procedure) of a platelet count > 100,000 per mm3 is the objective.

If the patient’s baseline platelet count is lower than what has been deemed necessary for the operation, then treatment should be considered to raise the count. The potential treatments are familiar to all readers of “The Platelet” and consist of prednisone and intravenous immunoglobulin (IVIG). In the United States anti-D (WinRho) would be another option, although this agent is not available in the United Kingdom. For most patients with ITP, beginning prednisone a week before surgery promotes a rise in platelet count, which can be confirmed three or four days later. If the platelet count does not rise satisfactorily (or if the patient is already known to be refractory to steroids), then IVIG can be given instead, usually resulting in a prompt rise in platelet count to an “acceptable” level. The immunosuppressive medications used on a more chronic basis in persons with ITP are not useful in immediately raising the platelet count.

Platelet transfusions usually aren’t very effective in ITP since the transfused platelets are rapidly destroyed by the body. However, for ITP patients whose platelet counts are extremely low (or whose delicate surgery demands a platelet count higher than can be achieved by the aforementioned measures), a platelet transfusion given right at the beginning of the operation can be temporarily helpful.

Although there is some risk of hemorrhage during the wound-healing days after surgery, bleeding – if it is going to occur – usually happens right away, during the operation or immediately thereafter. It can usually be controlled by local measures such as pressure bandages. Drugs that prevent the breakdown of blood clots, such as tranexamic acid, can also be useful, especially for surgical procedures that involve the mouth, urinary tract, or uterus.

Unfortunately, anesthesiologists and surgeons are often more worried about slightly low platelet counts than they need to be. Sometimes they insist that the platelet count be raised to normal or near normal before surgery. In such circumstances it is advisable for your hematologist to provide reassurance to the doctors involved with the surgery that they shouldn't panic but expect little or no excessive bleeding despite the fact that the platelet count may be low.

For a few patients with ITP requiring surgery, things other than the platelet count may be of importance. Patients receiving prednisone, especially if for a long time, may need extra doses of steroids during and following the surgery, a standard practice for all patients on steroid medications.

In conclusion, you have ITP and need surgery, then by all means have the operation without fear of major hemorrhage. Even when the platelet count is extremely low and refractory to all treatment, platelet transfusions and good surgical technique can usually allow the operation to be performed safely.