

# BLOOD MANAGEMENT STRATEGIES FOR JOINT REPLACEMENT

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In the past, joint replacement surgery has been associated with significant blood loss and the frequent need for blood transfusions. When the safety of the blood bank supply came into question in the 1980s, predonation of blood by patients before surgery became the norm. Times have changed: the blood loss associated with minimally invasive surgery is less, new blood salvage techniques have been established, predonated blood is going to waste, and blood banks have achieved a safe supply through vigorous testing of donated blood. For these reasons, many surgeons no longer recommend routine predonation of blood prior to surgery.

My preferred blood management strategy is based on my own research studies as well as the work of other authors. The most important factor for predicting the need for a transfusion is the presence of anemia (low blood count) before surgery.

1. First, I screen patients who are at risk for anemia with a check of their hemoglobin level. Patients who are anemic cannot donate blood prior to surgery.
2. Patients who are anemic are offered injections of erythropoietin once per week for 3 weeks prior to surgery and again on the day of surgery. Alternatively, injections can be given daily for 7 days prior to surgery and continuing for 3 days after surgery with similar effects. Erythropoietin is a powerful medication that stimulates the bone marrow to make more red blood cells, which corrects the anemia and reduces the likelihood of a blood transfusion. Patients receiving erythropoietin should be taking iron supplements as well.
3. Patients who are not anemic may donate blood if they so choose. I do not recommend predonation for several reasons: it creates anemia, it is costly and leads to tremendous waste of blood because much goes unused, and transfusion is rarely required with the use of blood salvage devices.
4. I use the OrthoPAT device in all patients. The OrthoPAT stands for “**orthopaedic perioperative autotransfusion**” and is an automated cell salvage system which collects the blood lost at the time of surgery and afterwards and washes the cells, concentrates them, and deposits them in a collection bag for reinfusion. We completed a 4-year study with this device, the results of which I have presented at meetings all over the US.

According to the California Health and Safety Code, Section 1645, also known as the Paul Gann Act, I am required to inform you about all of your blood management options. Included with this information sheet is the pamphlet from the state that I am required by law to provide.

If you have any questions regarding my blood management strategy, please do not hesitate to ask me.

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