

*Many of these techniques are common practice for healthcare professionals.
The merging and blending of these strategies to manage and conserve blood loss is*
BLOODLESS MEDICINE & SURGERY.

<p>ARGON BEAM COAGULATOR – A surgical instrument that uses a beam of ionized argon gas to conduct high-frequency electrical current to bleeding tissues to coagulate blood during surgery and minimize blood loss.</p>
<p>PERIOPERATIVE AUTO TRANSFUSION/ CELL SAVERS /AUTOLOGOUS BLOOD RECOVERY SYSTEMS – Devices that recycles a patient’s own blood during surgery. The system recovers, continuously cleans and returns the RBC’s lost during surgery to the patient (unfortunately all plasma and proteins are washed away).</p>
<p>ELECTRO CAUTERY – Use of heat to stop vessels from bleeding.</p>
<p>ERYTHROPOIETIN (IRON) – a hormone that stimulates the production of red blood cells when there is an available supply of iron for utilization.</p>
<p>FACTOR SEVEN rFVIIa Recombinant activated clotting factor VII (common pathway) must have adequate levels of fibrinogen and platelets onboard prior to administration. \$\$\$ 6K/dose</p>
<p>HEMOSTATIC AGENTS (some examples) – Amicar and Tranexamic Acid (antifibrinolytic agents) which may be administered PO, IV or topically. Aprotinin (natural protease inhibitor) administered intravenously via a Central line. Vitamin K may be given PO, IV, IM, SC. Gelfoam and Platelet Gel* for topical administration.</p>
<p>HARMONIC or ULTRASONIC SCALPEL – A scalpel that uses vibration and friction to cut tissue and cause blood clotting simultaneously.</p>
<p>HYPERBARIC CHAMBER – Distributes high concentrations of oxygen into blood prior to surgery.</p>
<p>HYPOTENSION – lowering the blood pressure so that blood loss is reduced.</p>
<p>LAPAROSCOPIC SURGERY – A surgical procedure performed with minimal incisions.</p>
<p>LASER SURGERY – A surgical procedure that reduces blood loss by sealing tissue.</p>
<p>MICROSAMPLING – A laboratory technique that uses the minimal amount of blood needed to perform tests.</p>
<p>ACUTE NORMOVOLEMIC HEMODILUTION (ANH) – The removal of blood from a patient just prior to surgery (that may be routed to a closed system.) Intravenous fluids are used to replace the lost blood volume. Bleeding during surgery occurs with dilute blood, and the patient’s whole blood is reinfused postoperatively</p>
<p>POST-OPERATIVE BLOOD SALVAGE AND REINFUSION – During procedures where bleeding is known to continue after surgery (i.e. orthopedic, cardiac, thoracic, vascular) the surgeon inserts a tube that collects blood from the surgical site. This blood flows to a reservoir device. The whole blood is filtered and returned intravenously to the patient. This is a closed system and a maximum of 2.0 Liters is recommended in the literature.</p>
<p>PULSE OXIMETER – A device that monitors oxygen saturation levels using a noninvasive technique to decrease blood draws.</p>
<p>ULTRAFILTRATION – The process of removing non-cellular water, cytokines, anaphylatoxins and platelet inhibitors from anticoagulated whole blood either in the native circulation or from a reservoir (ie the Hemobag®).</p>