Filtration surgery for the treatment of glaucoma presents a unique challenge to surgeons. Although most incisional surgeries require adequate and complete wound healing for a successful outcome, filtration surgery relies on an abbreviated and incomplete healing process for long-term success. It is, in fact, a vigorous and robust healing process that accounts for the failure of most surgery in glaucoma.

**Wound Healing**

After the conjunctiva is incised during surgery, a sequential and complex process of wound healing begins. This cascade of events begins with vascular leakage and coagulation. Blood vessels leak platelets, blood cells, plasma proteins, clotting factors, numerous tissue growth factors, and chemokines. The coagulation cascade is stimulated and clot formation begins, augmented by platelet aggregation. This insoluble fibrin-fibronectin matrix serves as the initial scaffold for future inflammatory cells to invade. Cellular migration and proliferation constitute the next phase of wound healing. Within a few days, inflammatory cells such as neutrophils, macrophages, and monocytes migrate to the wound site and begin tissue debridement and control of infection. Macrophages also serve to provide several pro-inflammatory growth factors such as platelet derived growth factor, fibroblast growth factor, and transforming growth factor beta (TGF-β)\(^1\)\(^2\).

During the proliferative phase, quiescent fibroblasts differentiate into a more active state—termed myofibroblasts. These activated fibroblasts not only produce loose connective tissue but they begin the process of remodeling existing extracellular matrix with the aid of matrix metalloproteinases. Pro-angiogenic factors, such as vascular endothelial growth factor (VEGF),