“Sizzle or Steak” was the recent title of an article by Steinert discussing new developments in refractive surgery. Surface ablation is definitely steak. In an environment where patients and surgeons are constantly looking for the next best thing, photorefractive keratectomy (PRK) has persisted for more than a quarter of a century. There have been profound advancements in diagnostic equipment, treatment technology, and medications that have allowed surface ablation to continue over the years as a safe and effective refractive technique.

**History of Surface Ablation**

Surface ablation started with PRK in the 1980s with the development of the excimer laser, which provided an alternative to incisional refractive surgery. Refractive techniques have expanded to include PRK, laser epithelial keratomileusis (LASEK), and epithelial laser in situ keratomileusis (epi-LASIK) (Table 1-1). All surface ablation techniques involve removal of the corneal epithelium followed by excimer laser ablation to the underlying cornea to achieve a refractive correction.

In some cases, a smoothing effect is achieved by ablation of the epithelium or the use of smoothing techniques after epithelial removal as in phototherapeutic keratectomy (PTK). To understand what has allowed surface ablation to remain as a refractive technique for more than 25 years, it helps to look back at prior refractive surgery techniques and why techniques were eventually changed or abandoned (Table 1-2).

Methods of reshaping the corneal surface to correct refractive errors prior to the excimer laser included radial keratotomy (RK) and lamellar keratoplasty. The use of incisions for the treatment of myopia was first attempted by Lans at the end of the 19th century. Throughout the next several decades, surgeons including Sato attempted to refine the technique of using posterior and anterior radial incisions to create corneal flattening. The method was refined to include only anterior incisions and the number of incisions was reduced.

By the 1970s, Fyodorov made RK famous with his assembly line approach to refractive surgery with multiple surgeons operating on multiple patients simultaneously.

“This institute should be called Medical Factory No. 1 for production of people with good eyesight,” Fyodorov told the Associated Press in 1985. According to some reports, it was Fyodorov’s observation of a young boy with a corneal injury that led to the development of his RK technique.