



Figure 2. Relatively bloodless cutting of breast parenchyma.

The harmonic scalpel, or ultrasonic scalpel, produces heat through friction rather than through an electric current—the scalpel relies on piezoelectric stacks that convert electricity into mechanical energy, causing the tip to oscillate between 55 and 90 micrometers side-to-side at a rate of 55,500 times per second. The primary benefit of ultrasonic scalpels is that they cause thermal damage to only 1 to 2 millimeters of adjacent tissue.³ The harmonic scalpel causes coagulation of hemoglobin within small vessels at the moment they are

divided, resulting in hemostasis with little epidermal and dermal injury.⁴

The harmonic scalpel is a useful tool for the aesthetic surgeon for reduction mammoplasty as it reduces the morbidity of the procedure. The various applications for this tool need to be explored further so that the full potential of this gadget can be utilized by cosmetic surgeons worldwide.

References

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