

**Table 1. Comparison of Attributes of Alternative Surgical Incision Devices**

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<h1>Surgical Incision Device</h1>							
Attribute	Hemostatix Thermal Scalpel	Cold Scalpel	Monopolar Electrosurgery-Cut	Monopolar Electrosurgery-Coag	Harmonic Incision	Ferromagnetically Heated Loop	Pulsed Monopolar Electrosurgery
<b>CUTTING EFFECTIVENESS</b>							
Provides scalpel tactile feedback sufficient to distinguish tissue types	✓	✓	✗	✗	✗	✗	✗
Provides precise tissue incision equivalent to cold scalpel	✓	✓	✗	✗	✗	✗	✗
Incises with low-drag in all tissue types	✓	✓	✓	✗	✗	✓	✓
Reduces operating time to both cut and coagulate tissue	✓	✗	✓	✓	✗	✓	✓
Eliminates need to adjust tip-to-tissue air gap distance during incision	✓	✓	✓	✓	✓	✓	✓
<b>HEMOSTASIS EFFECTIVENESS</b>							
Allows surgeon to set scalpel maximum temperature	✓	✗	✗	✗	✗	✗	✗
Minimizes collateral thermal damage to nearby vital structures	✓	✓	✗	✗	✓	✓	✓
Seals most blood vessels as they are incised providing dry field	✓	✗	✗	✓	✗	✓	✗
Enables application of tamponade to seal larger vessels prior to incision	✓	✗	✗	✗	✓	✗	✗
Minimizes depth of necrosis at surface of incision	✓	✓	✗	✗	✓	✓	✓
<b>SAFETY</b>							
Eliminates possibility of electrical tissue stimulation	✓	✓	✗	✗	✓	✓	✗
Eliminates possibility of dispersing airborne, viable tumor cells and virions	✓	✓	✗	✗	✗	✓	✗
Avoids interference with Pacemakers, Implantable Defibrillators, Cochlear implants	✓	✓	✗	✗	✓	✓	✗
Eliminates need for smoke evacuation	✓	✓	✗	✗	✗	✗	✗
Eliminates grounding pad	✓	✓	✗	✗	✓	✓	✗
Avoids electrical current flow in tissue, unwanted collateral electrical tissue injury	✓	✓	✗	✗	✓	✓	✗
			{see Notes 1, 2, 3 and 6}	{see Notes 1, 2, 3 and 6}	{see Notes 1, 2, 3 and 5}		{see Notes 1, 2 and 3}
<p>Note 1--Hashimoto, M., et.al., Viability of Airborne Tumor Cells during Excision by Ultrasonic Device. <i>Hindawi Surgery Research and Practice</i> 2017; 4907576:1-5</p> <p>Note 2--Barrett, W., et.al., Surgical Smoke--A Review of the Literature. <i>Surgical Endoscopy</i> 2003; 17: 979-987</p> <p>Note 3--Sawchuck, W., et.al., Infectious Papillomavirus in the Vapor of Warts Treated with Carbon Dioxide Laser or Electrocoagulation: Detection and Protection. <i>Journal of American Academy of Dermatology</i> 1989; 21:41-49</p> <p>Note 4--Baggish, M., et.al., Presence of Human Immunodeficiency Virus DNA in Laser Smoke. <i>Lasers in Surgical Medicine</i> 1991; 11: 197-203</p> <p>Note 5--Johnson, G. et.al., Human Immunodeficiency Virus-1 (HIV-1) in Vapors of Surgical Power Instruments. <i>Journal of Medical Virology</i> 1991; 33: 47-50</p> <p>Note 6--Fletcher, J., et.al., Dissemination of Melanoma Cells within Electrosurgery Plume. <i>American Journal of Surgery</i> 1999; 178: 57-59</p>							