**NanoKnife® treatment**

Jupiter Medical Center is proud to be among an exclusive group of hospitals to use the NanoKnife™ System, state-of-the-art surgical technology to treat locally advanced pancreatic and liver cancers. This innovative technology provides a minimally invasive option for patients with inoperable or difficult to reach tumors. NanoKnife uses electrical currents to destroy tumors without damaging normal healthy tissue.

**How it Works**

NanoKnife is an ablative approach to permanently damaging cancer cells that may be difficult to reach and treat with traditional methods. It generates electrical pulses from carefully placed probes to destroy diseased tissue, while preserving surrounding structures.

The NanoKnife probes are put into position during surgery using ultrasound guidance to ensure exact placement for treatment of cancerous tissue. The probes target diseased cells with electrical pulses that create small holes in the cell membranes, permanently damaging them. This process is called IRE, or irreversible electroporation.

IRE is an ablative technique, a type of therapy that targets and kills diseased cells. Most ablative techniques rely on intense heat or cold to destroy cancerous tissue, which can affect critical structures nearby. Because the NanoKnife relys on IRE to destroy cells, it allows for great accuracy, thus preserving surrounding healthy blood vessels, nerves, and ducts.

Pancreatic and liver cancers can be challenging from a treatment perspective, especially in later stages where the cancer has spread to nearby organs and vital structures. Patients with these types of cancers may have limited treatment options, and NanoKnife surgery provides the chance to extend survival.

Benefits of NanoKnife

* No open incisions
* Minimal postoperative pain
* Less damage to healthy tissue
* Fewer side effects
* Short hospital stay
* Faster recovery
* Ability to repeat the procedure if new tumors develop

Jupiter Medical Center’s Surgical Gastrointestinal Oncology Program, led by Dr. Shanel Bhagwandin, offers this innovative treatment option. To schedule an appointment please call 561-263-4400.