WHAT IS Radiofrequency Ablation?

RADIOFREQUENCY: electrical energy used to create heat

ABLATION: removal or destruction of body tissue

Until recently, people with cancer or other tumors have had traditional treatment options at the site of the tumor such as surgical removal, radiation, freezing, and chemotherapy. Newer technologies include injecting medication directly into the tumor and cutting off the blood flow to the tumor. These methods all have their risks and drawbacks.

Radiofrequency Ablation (RFA) now offers a valuable, ground-breaking option. RFA is a medical technology that destroys tumors in a much less invasive way. It can eliminate a tumor when surgical removal is not an option and without the side effects of other techniques.
SEEK
RFA is a very precise procedure. Using an imaging guidance system such as ultrasound, computed tomography (CT), or magnetic resonance (MR), the doctor places a slender probe directly into the tumor. Once the probe is in position, a group of very thin, flexible electrodes are extended from the end of the probe into the tissue. This dispenses the heat to a wider area.

HEAT
Using a radiofrequency generator, the doctor then allows a carefully-controlled amount of energy to flow through the electrodes into the tissue. This causes the tissue to heat up. Heating is sustained for a predetermined length of time, usually just a few minutes. Temperature is constantly measured by tiny thermometers at the tips of the electrodes.

DESTROY
Upon completion of the treatment the tumor will be destroyed and will no longer enhance on CT imaging. In about a week the tumor may seem to enlarge as the body goes through a natural inflammatory response removing the outer ablated tissue much like the healing of a cut or bruise. After about a month the tumor will begin to shrink and destroyed cancer tissue, no longer fed by blood vessels, will show up as a non-enhancing area on CT imaging. According to physician guidelines this would be considered a complete response or complete destruction of the tumor.

There are three types of RFA treatment. Your doctor will determine the optimal treatment for you, depending on the size and severity of your tumors.

### Radiofrequency Ablation Treatments

**PERCUTANEOUS**
A needle-sized electrode is passed directly through the skin and guided into place. This requires only light sedation. You can usually go home the same day.

**LAPAROSCOPIC**
Several tiny incisions are made, allowing the insertion of the RFA and imaging probes. This requires general anesthesia. You can usually go home the next day.

**OPEN SURGERY**
RFA can be used during open surgery, allowing the doctor to view the tumor before and during treatment. This requires general anesthesia and a slightly longer recovery.

### BENEFITS:
- Reduction of the size or elimination of tumors
- Minimally invasive—usually done on an outpatient basis
- Can be used on tumors up to 5 cm in size
- Can be used repeatedly for recurring or new tumors
- Few complications or side effects

### RISKS:
- Low-grade fevers for a few days following the procedure
- Very low risk of skin burns, bleeding, fluid accumulation, injury to adjacent structures and infection

What treatment is best for me?
Treatment choice depends on the type and size of tumors, their number and location, the severity of the disease, and your general health. Your doctor will help you decide if RFA is a good option for you.

To learn more about radiofrequency ablation, visit these websites:
www.angiodynamics.com | www.livertumor.org