Ideal for Intrafraction Motion Management
Breast
Gold Anchor can be implanted during surgery to mark the surgical cavity after lumpectomy. The marker can then be used to improve accuracy in delineation of the surgical cavity during IGRT.
Gold Anchors can also be implanted percutaneously in breast, e.g. to facilitate a boost to breast tumors prior to surgery.
Gold Anchor is more visible on kV than surgical clips and attach stronger to the tissue than surgical clips and traditional markers. It is also visible on MRI.

Abdominal organs
The implantation of traditional markers can lead to bleeding, painful bile leakage when implanted in liver and, for example in the case of colorectal metastases, to the spread of tumor cells (seeding). Gold Anchor is available in the same type of ultrathin needles that have been used for over 60 years for fine needle aspiration cytology (FNAC) with no to very little harm.
Gold Anchor is suitable for percutaneous implantation in most abdominal tissue organs, e.g. liver, pancreas, kidney, adrenal gland, inguinal metastases, and oligometas in abdomen.

Placement through endoscopes
Some Gold Anchor users have chosen to transfer the Gold Anchor marker into 22G EBUS-TBNA or EUS-FNA needles. This enables placement of Gold Anchor through endoscope in central lung, esophagus, pancreas, and rectal tumors.
Transferring the Gold Anchor fiducial marker is easy since the tip of the 22G needle.

Gynecologic organs
The cervix is prone to movement. Changes in target position and shape may be caused by rectum- and bladder-filling changes, but may also be due to tumor shrinkage during radiotherapy. Fiducial markers are therefore useful to guide both external-beam and internal radiotherapy (brachy).
Gold Anchor expands outside the needle and anchors in the tissue while traditional markers have a tendency to migrate and fall out of the vaginal wall and cervix.

Peripheral lung
Lung tumors can often be visualized with cone-beam CT but there are cases that can benefit from using fiducial markers, e.g. when there is atelectasis or when the tumor edges as blurry. Intrafraction motion management may also require implanted fiducials.
Gold Anchor’s industry leading thin needles drastically reduce the risk of transthoracic implantation.

Incidence of pneumothoraces needing treatment after percutaneous transthoracic needle aspiration biopsy of the lung

<table>
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<th>Needle size</th>
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<th>17G</th>
<th>18G</th>
<th>19G</th>
<th>20G</th>
<th>21G</th>
<th>22G</th>
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</thead>
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<td>Treatment</td>
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<td>12.1%</td>
<td>24.7%</td>
<td>18.6%</td>
<td>20.8%</td>
<td>20.8%</td>
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<td>25.0%</td>
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Gold Anchor’s industry leading thin needles drastically reduce the risk of pneumothoraces.

Prostate
We generally recommend transrectal implementation. With Gold Anchor this procedure can be performed with a low risk of infection and without anesthesia. If you prefer to implant markers transperineally you can also avoid anesthesia – using an EMLA patch 30 minutes before implantation is enough.
Gold Anchor’s industry leading thin needles and unique marker design makes it possible to proceed with CT/MR for dose planning on the same day as implantation.

Intensity of pain during transrectal implantation in prostate (not showing those answering “no pain”).

<table>
<thead>
<tr>
<th>Needle size</th>
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<th>19G</th>
<th>20G</th>
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</table>

Reference:
Great visibility

Also on MRI, thanks to unique material
The marker is only 0.28 mm or 0.40 mm thick, which improves the surface-to-volume ratio. The marker is made of an alloy of pure gold and 0.5% pure iron for improved MR visibility.

Benefits
- Clearly visible on kV, CT, CBCT, Ultrasound and MRI
- Ideal for Proton Therapy
- Trackable with CyberKnife when implanted with a ball or tadpole shape
- Reduced CT artifacts
- Easy registration of CT and MR images

Minimally invasive

Industry leading thin needle
Fine needles for cytology have been used more than 50 years in all parts of the body with no to very little harm. Gold Anchor markers come preloaded in needles of the same size.

Benefits
- Reduce implantation time
- Reduce patient discomfort
- Reduce complications from implantation

Instant stability

Multiple cut-outs allow the marker to fold
The marker is passive and will form different shapes depending on implantation technique. Line shaped markers are useful for detecting plastic deformations and tilting. Completely folded markers are suitable for systems with automatic marker detection.

The thin Gold Anchor needle, that causes minimal bleeding and swelling, in combination with the strong tissue attachment of the marker, makes it possible to proceed with CT and/or MR for dose plan on the same day as implantation.

Benefits
- Anchors directly
- Trust each marker
- Save lead time and travel

Product codes

<table>
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<tr>
<th>Needle Ø</th>
<th>25G (0.5 mm)</th>
<th>22G (0.7 mm)</th>
<th>20G (0.9 mm)</th>
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<tr>
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<td>Marker (mm)</td>
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