TOGETHER, WE CAN TREAT CANCER PAIN IN NEW WAYS, SO PATIENTS CAN LIVE BETTER

OsteoCool™ RF Ablation
Bone is invaded in 60% to 80% of patients with metastatic disease\(^1\) — most frequently among patients with primary malignancies of the breast, prostate, and lung.\(^2\)

The most frequent complaint of patients with skeletal metastases is the pain associated with the disease — occurring in 79% of patients.\(^3\) The pain is usually refractory and affects quality of life.\(^4\)

Bone metastases can significantly impact patients’ quality of life with pain, fractures, decreased mobility, depression,\(^5\) and anxiety.\(^6\)

And with patients living longer with their cancer, more are suffering from metastatic disease pain.\(^1,2\)
Radiation therapy (RT) is the gold standard palliative treatment for patients with bone metastases.

But there may be patients who cannot or do not benefit from RT as the only treatment for pain palliation.

Based off your current protocol, how do you treat patients who have trouble receiving radiation due to pain?

**IMPROVED PAIN RESPONSE**

Di Staso, et al, showed that patients who received radiofrequency ablation (RFA) in conjunction with RT, vs. RT alone, for bone metastases palliation received:

- *6 weeks* faster pain response
- *33% increase* in overall pain response
  
  \[ p = 0.048 \]

**Study limitations**

- Small, non-randomized and non-concurrent comparison
- Cohort not well matched for sites treated
- Interpret comparative effectiveness with caution

* RFA therapy used: Leveen Needle Electrode (Boston Scientific Corp.)

**OVERALL PAIN RELIEF**

- **59%** of patients who received radiation therapy alone

\[ n = 30 \]

- **93%** of patients who received radiation therapy and radiofrequency ablation

\[ n = 15 \]
**Thinking about patients experiencing pain in your practice today, who might benefit from adjunctive RFA?**

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**EARLY PAIN RELIEF**

A recent retrospective study by Cazzato, et al., found that patients treated with a combination of RFA and vertebral augmentation experienced significant pain relief.  

**PAIN RELIEF AFTER RFA* + VERTEBRAL AUGMENTATION**

![Graph showing pain relief before and after RFA and vertebral augmentation](image)

Last clinical follow-up: 1.9±1.4 months
Mean pain score: 3.5±2 at follow-up versus 7.8±1.1 at baseline
N=11

**Study limitations**
- Small sample size
- Retrospective analysis
- Absence of an augmentation-only control group

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**When radiation alone may not be enough**

- Because radiation hardens bone, the National Comprehensive Cancer Network (NCCN) Bone Health Task Force propose radiation after augmentation.  
- RT alone provides potential pain relief but doesn’t prevent vertebral collapse.  
- Pain relief with RT is temporary in terms of complete and partial response.  
- Recurrent pain, previously irradiated, usually cannot be treated with additional RT.

**RFA + Augmentation + Radiation**

- RFA is not meant to oppose or replace standard treatments
- As a stand-alone or complementary option to radiation, RFA is an option for your patients with painful bone metastases.
- Subsequent augmentation stabilizes the fracture.
MEET PROCEDURE GOALS
WITH INTEGRATED THERAPY

PROCEDURE GOALS
The primary goals of any therapy for patients with metastatic disease in the vertebral body are to:
- Achieve pain relief
- Preserve neurologic function
- Restore mechanical stability

PAIN IS MULTIFACETED
While some pain derives from biological sources such as cytokine release, other pain sources are mechanical:
- Fracture and tumor periosteal pressure
- Tumor impingement on neural structures

OsteoCool™ RF Ablation
- Minimally invasive procedure for the treatment of metastatic bone tumors
- Internally cooled ablation probes can create large volume lesions without excessive heating at the active tip
- Simultaneous ablation allows two probes to be positioned closely enough to produce large ablation zones
- OsteoCool probes are available in 7, 10, 15 and 20 mm active tips, providing various size options to support clinical need

INDICATIONS AND RISKS
The OsteoCool™ RF Ablation System is intended for the palliative treatment in spinal procedures by ablation of metastatic malignant lesions in a vertebral body. It is also intended for coagulation and ablation of tissue in bone during surgical procedures, including palliation of pain associated with metastatic lesions involving bone in patients who have failed or are not candidates for standard therapy.
Risks of the system include damage to surrounding tissue through iatrogenic injury as a consequence of electrosurgery, pulmonary embolism, nerve injury including thermal injury, puncture of the spinal cord or nerve roots potentially resulting in radiculopathy, paresis, and paralysis. The OsteoCool™ bone access kits are indicated for percutaneous access to bone.

Vertebral Augmentation
- For patients with vertebral compression fracture due to cancer, balloon kyphoplasty or vertebroplasty commonly follow the OsteoCool™ RF ablation procedure
- Use the same access tools for OsteoCool™ RF ablation and subsequent vertebral augmentation where indicated

BKP RISKS
Kyphon™ BKP is a minimally invasive procedure for the treatment of pathological fractures of the vertebral body due to osteoporosis, cancer, or benign lesion. The complication rate with Kyphon™ BKP has been demonstrated to be low. There are risks associated with the procedure (e.g., cement extravasation), including serious complications, and though rare, some of which may be fatal.

What measures do you take to treat painful pathologic fractures in your practice?
REFERENCES


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