

### Transcript Details

This is a transcript of an educational program. Details about the program and additional media formats for the program are accessible by visiting: <https://reachmd.com/programs/project-oncology/understanding-bone-metastases-in-breast-cancer-impacts-and-treatment-approaches/26406/>

### ReachMD

www.reachmd.com  
info@reachmd.com  
(866) 423-7849

---

## Understanding Bone Metastases in Breast Cancer: Impacts and Treatment Approaches

### Announcer:

You are listening to *Project Oncology* on ReachMD. On this episode, we'll hear from Dr. Rochelle Johnson, who's an Associate Professor of Medicine in the Division of Clinical Pharmacology at Vanderbilt University Medical Center, in Nashville, Tennessee. She'll be discussing bone metastases in breast cancer patients, which she spoke about at the 2024 San Antonio Breast Cancer Symposium. Here's Dr. Johnson now.

### Dr. Johnson:

Typically, patients will present with quite a bit of pain and potentially a fracture, and that's frequently how they end up discovering that they have bone metastases. I think the overall impact is really that these patients tend to develop skeletal-related events of all different kinds. So this could be a fracture; it could be spinal cord compression. Patients will also typically develop or can develop hypercalcemia. And this is really due to the excessive bone resorption that's happening and release of calcium from the skeleton. This can also have a pretty negative effect on soft tissue and on different organs, so it can lead to organ failure. It's pretty multifaceted, the impact of bone metastasis on patient quality of life in particular.

There's multiple ways to treat bone metastases. There's a lot of interest in radiotherapy and pharmaceuticals; the typical way that bone metastases are treated, particularly in the U. S., is that those patients are given antiresorptives, so this could be something like zoledronic acid or bisphosphonate; it could also be denosumab, which is an anti-RANKL ligand antibody, so this prevents the fusion of osteoclast precursors, whereas bisphosphonates actually lead to osteoclast death. So these are both ways, though, that you can target bone resorption and prevent the osteoclast from really being able to resorb the bone just through two slightly different mechanisms. Some of our limitations with antiresorptives are that there are going to be some patients who still progress on those drugs. There's also patients who are ineligible to receive those drugs. For example, if they have chronic kidney disease then you wouldn't want to give a bisphosphonate.

But I'd say some of the more promising things that are on the market are some of the things that certainly from the preclinical side and are starting to emerge on the clinical side is other ways that we can potentially target the bone to actually repair it. The way to do this is through the use of bone anabolic agents. These are used commonly in patients with osteoporosis who have really low T scores to try and bring their bone density up. These are drugs like teriparatide and abaloparatide, which are PTH and PTHRP analogues. So one of the really interesting things with those is those drugs are very effective at stimulating bone formation and increasing BMD and preventing fractures. They have not been used historically in patients with cancer because they had a Black Box Warning on them for many years about the risk of osteosarcoma. The black box warning was removed a few years ago. And this was because in the real-world setting, they did not see any increase in osteosarcoma risk in patients and no evidence of other cancers. So they removed that black box warning but left still a warning to be cautious in patients who have cancer or history of cancer.

There are now multiple groups, including my own, that are trying to determine whether or not in the preclinical phase, does it look like these drugs could potentially actually be safe and effective in the cancer setting? So we have preliminary data that suggests that they might actually be safe and that they can still stimulate bone formation. I think one of the major things that will have to be sorted out is whether or not they compromise the efficacy of the drugs that are targeting the tumor, like the chemotherapy or any other kind of drugs. So those studies are underway, but I think it's really promising and has a lot of promise potentially to really restore the bone in those patients so that they are not at increased risk of fracture hopefully down the road.

**Announcer:**

That was Dr. Rachele Johnson talking about bone metastases in breast cancer patients, which she presented a session on at the 2024 San Antonio Breast Cancer Symposium. To access this and other episodes in our series, visit *Project Oncology* on ReachMD.com, where you can Be Part of the Knowledge. Thanks for listening!