

### 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/clinicians-roundtable/detecting-parathyroid-disease/3078/>

### ReachMD

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

---

Detecting Parathyroid Disease

## NEW TOOLS FOR SUCCESSFUL THYROID AND PARATHYROID SURGERY AND OSTEOPOROSIS IN MEN

New developments in parathyroid disease and are we thinking about osteoporosis in men enough? You are listening to ReachMD XM 157, the channel for medical professionals. Welcome to the Clinician's Roundtable. I am your host, Dr. Maurice Pickard and joining me today is Dr. Mira Milas.

### HOST:

Maurice Pickard, MD

### GUEST:

Mira Milas, MD

Dr. Milas is Associate Professor at the Cleveland Clinic and is also involved at the Endocrinology and Metabolism Institute at the Cleveland Clinic.

### Dr. PICKARD:

Thank you very much for joining us today.

### Dr. MILAS:

It's a pleasure to be here.

### Dr. PICKARD:

First of all could you tell me a little bit about the field of Endocrine Surgery, which seems to be growing rapidly.

**Dr. MILAS:**

An endocrine surgery has a very long history that surgeons whose interests have been diseases of the thyroid and parathyroid glands as well as problems such as insulinomas, gastrinomas, and neuroendocrine tumors of the pancreas and problems of the adrenal glands such as pheochromocytomas or aldosteronomas have all assembled into a specialist who is able to address all of those fields or perhaps focus on subsets of them. It is an exciting field. It offers a chance for tremendous academic contribution of new knowledge so that we are able to have better ways of treating each of these conditions. There is a fellowship training program for surgeons who are finishing their residencies and would like to focus on these 4 specific aspects of medicine and surgery and all of us in the field anticipate that it will only continue to grow in the future.

**Dr. PICKARD:**

You know early in my career certainly ultrasound was used mainly just to distinguish a solid thyroid lesion from a cystic thyroid lesion. Certainly, the use of ultrasound and fine-needle aspiration has changed and can you give me an idea how you are now using it?

**Dr. MILAS:**

The ultrasound has versatile applications in a clinician's practice and you are absolutely right, it used to be the domain of radiologists who facilitates the care of patients by anatomically describing the thyroid problems that are encountered and then collaborate with the primary physicians who refer the patient to the Radiology Department and that is still the model in many centers and it works quite well. More and more, however, clinicians are training and routinely incorporating the use of ultrasound in their own practice so that as they are meeting the patient for the first time, obtaining a history and examining them, they are using the ultrasound as an extension of that exam and in that way they are able to often provide a patient one-stop shopping so that they see their treating physician who is able to do the ultrasound and then able at the same visit to do a biopsy of a thyroid nodule, if one is discovered, and the patient may come away from that clinic at the end of the day with a diagnosis and a treatment plan for further care. The ultrasound can contribute to medical diagnosis in so many ways to identify thyroid nodules, to diagnose a thyroid cancer, to exclude problems that are thought to be thyroid in nature whereas they actually turn out to be adjacent lymph nodes or metastases or unrelated problems to the thyroid to diagnose incidental problems like parathyroid disease in patients who have a goiter and also very importantly in patients who have thyroid cancer, ultrasound is used to screen for lymph node metastases before surgery so that at the time of surgery those patients can undergo both the appropriate thyroidectomy, but also possibly concomitant lymph node dissection and therefore have surgery performed all in one setting rather than have to return for multiple procedures.

**Dr. PICKARD:**

I think this might also have use in parathyroid disease whether you want to explore both sides of the neck, is that possible?

**Dr. MILAS:**

Well, the practice of parathyroid surgery over the last 10 years has changed dramatically. Ten years ago, the vast majority of parathyroid surgeons would routinely explore both sides of the neck to identify all of the 4 anticipated parathyroids next to the thyroid. With the advent of intraoperative parathyroid hormone monitoring and also much improved sestamibi scans and also the ultrasound, the surgical strategy has shifted so that if the imaging studies like the ultrasound are able to pinpoint the site of one abnormal parathyroid, surgery can be tailored to reach and target just that abnormal parathyroid and once it is removed in the operating room, the PTH assay that is

rapid and gives a result in 10-15 minutes in the operating room can confirm that no additional parathyroids that are overproducing PTH remain in the neck, and the vast majority of parathyroid surgeons now, 75% of them, will choose to end the procedure at that point. So really the field over the last 10 years has shifted dramatically with many of the adjuncts that we have been able to discover and implement.

**Dr. PICKARD:**

One of the things that strikes me is with our increasing list of patients on chronic dialysis that's only going to get worse. It's a problem that we are coming nowhere near solving, are we are going to be seeing the increasing use of parathyroid surgery and these people who will have secondary and even tertiary hyperparathyroidism? We are seeing patients who even have transplants and after transplant will have an autonomous functioning parathyroid gland that leads to hyperparathyroidism. This is going to be a significant part of our medical population. Is this an area where an endocrine surgeon will become involved more?

**Dr. MILAS:**

This has been an area where endocrine surgeons and parathyroid surgeons in general from other specialties have always had an interest. Probably, only 4% or so of patients who has kidney failure and are on hemodialysis and therefore have secondary hyperparathyroidism are referred to have parathyroid surgery and many of them when they are finally referred, come at a late presentation of their disease. So their parathyroid hormone levels are extremely high. Often, they have failed medical treatments that have attempted to improve that hyperparathyroidism, their consequences of bone loss, fatigue, musculoskeletal pain are more advanced than might have been when they started hemodialysis. So, an incredible minority of patients ever come to receive treatment that is very appropriate for them and that stands to both reduce their cardiovascular risks as some recent studies have shown and also improved their bone health and the reason for such a small minority of patients coming to have this type of treatment is multifactorial. Many of the patients with secondary and tertiary hyperparathyroidism have other comorbidities. They may be frail, they may not be interested to add yet another surgical treatment to their week that is full visits to dialysis and medical care in general, but I think an important to convey is that parathyroid surgery does have an important role in this population and that studies continue to show demonstrable improvements in overall health in patients who do have secondary and tertiary hyperparathyroidism.

**Dr. PICKARD:**

So, it sounds like they are being possibly neglected in our thought process, but another group that we may be forgetting about is the investigation and looking for osteoporosis in otherwise healthy men. Is this an area that we should be giving attention to?

**Dr. MILAS:**

We should definitely be looking for osteoporosis in men more than we are already. Osteoporosis is a national health problem that women have faced and for which many national campaigns have made a tremendous impact to improve. I think the same could be achieved for men. It is quite sobering when looking at the statistics for men, these statistics show that only about 20% of men return to prefunctioning level if they sustain a hip fracture and even more sobering is the statistics that men who are older than age 75, when they do have a hip fracture have a mortality rate a year after that hip fracture that is 3 times greater than that for women. So I think for many reasons it is important to try to identify osteoporosis in men early to then be able to intervene and prevent fractures and prevent some of the loss of function and serious health consequences that happen once the fracture is sustained.

**Dr. PICKARD:**

Another area that you have been writing about is TSH messenger RNA. Could you describe its use especially in carcinoma of the thyroid?

**Dr. MILAS:**

One of our collaborators at the Cleveland Clinic, Dr. Manjula Gupta, developed a new assay, about 7 or 8 years ago that seeks to detect the messenger RNA for the TSH receptor in peripheral blood and the concept behind developing this marker as an assay for thyroid cancer is the following: Thyroid cancer cells like normal cells have a functioning TSH receptor on their surface. However, normal thyroid cells should not be able to cross the blood barrier to be shed and detected in peripheral circulation. So, presumably thyroid cancers do have that ability and if a test is based on detecting mRNA from the cells in blood circulation that are detected during regular blood tests, then those would presumably represent that a patient has thyroid cancer in their body either in the thyroid if their thyroid has not been removed or that after having thyroid surgery for thyroid cancer, this particular marker can be used to detect a recurrence. So in many ways it functions in the similar concept as thyroglobulin, which is a protein that is secreted by the thyroid and detected in the serum portion of the blood. The TSH mRNA is detected in the cellular portion removed from peripheral blood test and then RT-PCR technology is used to isolate the sequence that is unique to this thyrotropin receptor.

**Dr. PICKARD:**

We have certainly given our listeners a lot to think about. The areas that we thought we understood and had a clear idea of how to evaluate, now we realize that there are really an increasing frontier that will help us in our preoperative and postoperative followup.

I am your host, Dr. Maurice Pickard, and I have been speaking with Dr. Mira Milas, Associate Professor of Surgery at the Cleveland Clinic, and we have been discussing new improvements in evaluating people with the thyroid and parathyroid disease. You have been listening to the Clinician's Roundtable on ReachMD XM 157, the channel for medical professionals. Thank you for listening.

This is Dr. Timothy Coetzee, Fast Forward, LLC, in New York City. You are listening to ReachMD XM 157, the channel for medical professionals.