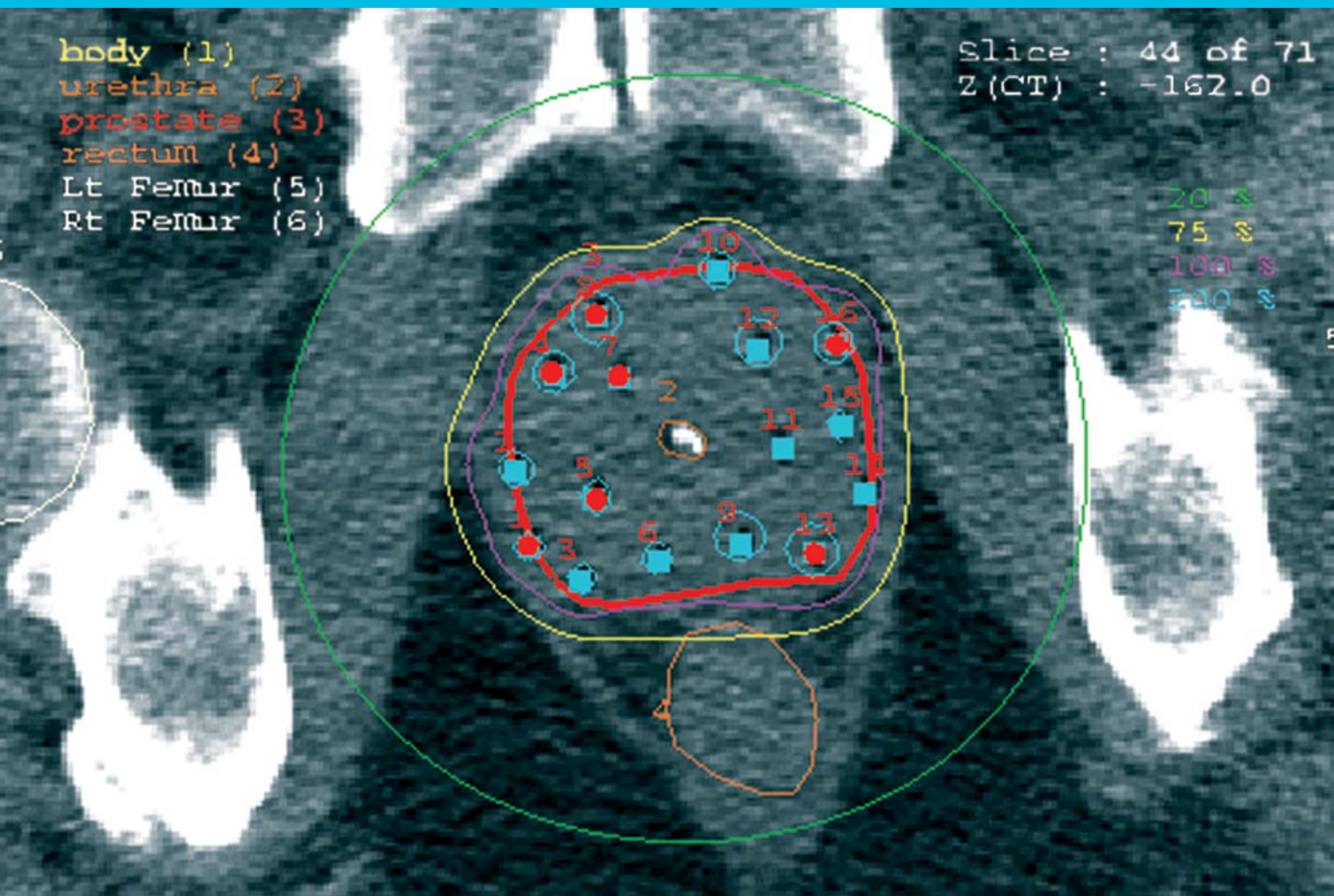


# Munson Health Network

## Physician Partners

### Helping Your Patients Along the Prostate Cancer Pathway



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CT Scan of Prostate  
With Seed Implants

# Prostate Cancer Pathology First Step In Pathway

Prostate cancer, with the exception of skin cancer, is the most common cancer among American men. According to the American Cancer Society, one in six men will be diagnosed with prostate cancer. In part because of widespread use of prostate specific antigen (PSA) screening and digital rectal examination (DRE), ninety percent of prostate cancers are discovered at the local or regional stage, and the five-year survival rate for this group is nearly 100 percent.

## Core Biopsy

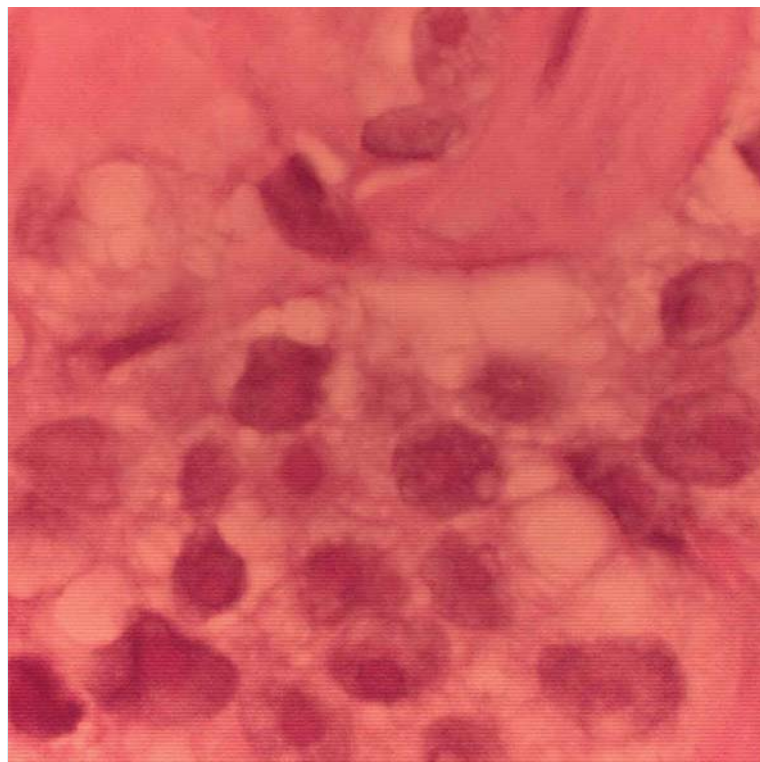
Evaluation of a suspicious PSA or DRE finding begins with an examination by a transrectal ultrasound and core biopsies. Kyle A. Carr, MD, a pathologist at Munson Medical Center (MMC), said, “A correctly performed biopsy and a correctly interpreted pathology examination provides the clinician and the patient with information critical to making the most appropriate therapeutic decisions.”

The radiologist, or urologist who performs the biopsy, and the pathologist who reads the results work as a team to acquire the information necessary to make a diagnosis and treatment recommendations. Richard M. Cover, MD, a radiologist at MMC, said, “A transrectal ultrasound of the prostate (TRUSP) allows us to see the prostate and associated structures, to identify suspicious areas that may not have been detectable on DRE, and to take biopsies for pathologic examination.”

Prostate cancer can be a highly focal disease, and increasing the number of biopsy samples taken raises the sensitivity of the test. Munson physicians generally employ the sextant

*“A correctly performed biopsy and a correctly interpreted pathology examination provides the clinician and the patient with information critical to making the most appropriate therapeutic decisions.”*

— Kyle A. Carr, MD  
MMC Pathologist



**Invasive prostate adenocarcinoma.** Cells with abundant variable nucleoli, form abnormal glands and infiltrate the

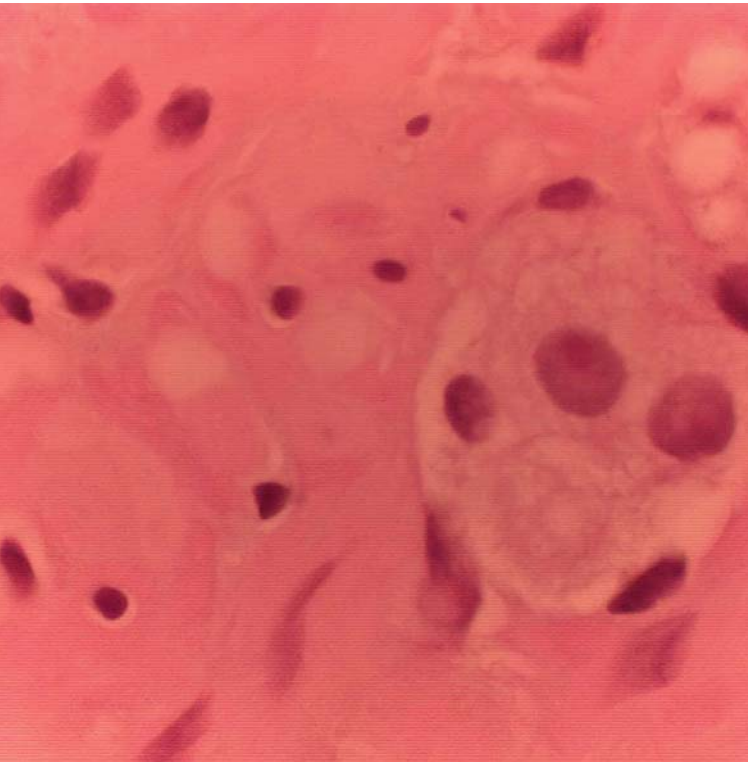
approach, taking at least twelve cores, two each from the top, middle, and bottom on the right and left sides of the prostate.

The foremost purpose of the prostate biopsy is to establish or rule out a diagnosis of malignancy. In the prostate, malignancy is almost always adenocarcinoma, but the biopsy allows less common malignancies to be identified and properly treated as well.

## Gleason Scoring System

If the malignancy is adenocarcinoma, the pathologist assigns a Gleason score, the most accepted method of prostate tumor grading. The Gleason scoring system is based on identification of microscopic tumor patterns that express the degree of differentiation from normal prostate architecture and may be used as a measure of tumor aggressiveness.

The Gleason score is obtained by assigning a Gleason grade 1-5,



foamy cytoplasm, enlarged variable nuclei and enlarged pink paucicellular prostate stroma.

with 5 being the least differentiated and most aggressive. The Gleason score may therefore range from 2 to 10, with 6, 7, and 8 being by far the most common scores.

One of the drawbacks of the Gleason scoring system is that it is subjective and dependent on the ability of the pathologist to correctly identify microscopic tumor patterns that are not always easily distinguishable. The Munson pathology practice incorporates a number of safeguards to ensure correct tumor scoring and enhance therapeutic decision-making.

For all first-time diagnoses of prostate cancer, a second pathologist examines the specimen independently and confirms the diagnosis and, when needed, the Gleason score. In particularly difficult cases, multiple pathologists may view the same specimen through a multi-headed microscope or the specimen may be sent for an outside opinion.

### Pathology Findings

Besides the Gleason score, the pathology report yields a great

deal of other valuable information that may drive treatment choices, including:

- Percentage of total cores that are cancerous
- Location of the cancerous cores; at Munson, each core is placed in a separate container labeled with the location of the core site, allowing the pathologist to report on the anatomic location and grade of each cancerous core
- Extent of cancer involvement, including evidence of perineural or vascular invasion, or of extra-prostatic extension
- Evidence of previous exogenous therapy, including radiation therapy and hormonal manipulation

Biopsies that are negative for prostate cancer may still provide important treatment information, including evidence of high-grade prostatic intraepithelial neoplasia (PIN) or of atypical small acinar proliferation (ASAP). Both conditions currently are indications for repeat biopsy in a relatively short time frame.

Evaluation of tissue specimens from prostatectomy also provides clinicians with valuable information to treat their patients. Pathologists evaluate surgical margins of the prostate and look for evidence of invasion of the seminal vesicles and vasa deferentia. Positive margins increase the likelihood of recurrence and carcinomatous invasion of structures outside the prostate increases the staging of the tumor. Both circumstances militate for follow-up and/or additional therapy.

### On the Horizon

Proteomic and genomic techniques may allow pathologists to profile cancers and differentiate between similar appearing tumors. Although these techniques are available today, it is unclear if and when they will actually be able to provide therapeutically meaningful information. In the nearer term, analysis of various forms of the PSA molecule may increase the sensitivity and specificity of the PSA screen and add value to clinical decision-making.

For more information on diagnostic care for prostate cancer patients, contact the following departments:

	<b>Radiology</b>	<b>Pathology</b>
Mercy Hospital Cadillac	(231) 876-7260	(231) 876-7296
Mercy Hospital Grayling	(989) 348-0258	(989) 348-0352
Munson Medical Center	(231) 935-6400	(231) 935-6100
West Shore Medical Center	(231) 398-1147	(231) 398-1156

# Advanced Radiation Technique for the Treatment of Prostate Cancer

## *Munson One Of Three Centers In State To Offer IGRT*

The radiation oncology team at Munson Medical Center (MMC) offers innovative techniques that enhance cancer control for prostate cancer patients. MMC radiation oncologist Douglas Brown, MD, said, “More sophisticated forms of external beam radiation, as well as advances in brachytherapy, allow us to offer more and better treatment options for our patients. Using these modalities, we can deliver more therapeutic radiation to the target lesion, while limiting the radiation dose to nearby normal tissues.”

*“More sophisticated forms of external beam radiation, as well as advances in brachytherapy, allow us to offer more and better treatment options for our patients.”*

— **Douglas Brown, MD**  
**MMC Radiation Oncologist**

### Image-guided Radiotherapy

Image-guided radiotherapy (IGRT) is the newest offering in the external beam radiation therapy armamentarium. MMC is one of only three centers in Michigan to offer this advanced treatment option that is especially beneficial for patients with moderate- and higher-risk prostate cancer.

Because of differences in bladder and bowel filling, the location of the prostate may change over the course of a day or from day to day. Prior to the advent of IGRT, physicians compensated for these discrepancies by building volume expansion into the treatment plan – essentially expanding the area of treatment and its margins to accommodate typical changes in prostate position. IGRT allows real-time imaging of the prostate, so at every treatment physicians can precisely localize the prostate within the pelvis and deliver optimal doses of radiation.

IGRT therapy begins with surgical implantation of fiducial markers – small radio opaque seeds – into the prostate to verify the position of the prostate. About a week later, after

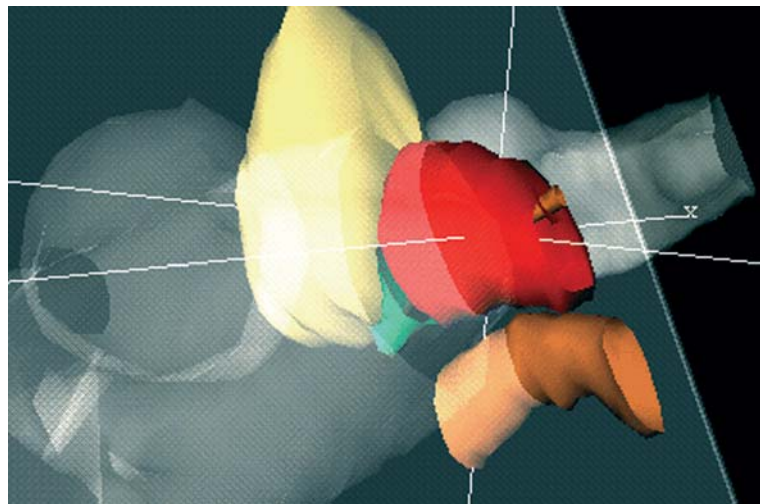


Image Guided Therapy: 3-D image of Prostate (red) seminal vesical (green) and normal surrounding structures.

any swelling has subsided, physicians take a CT scan, and the radiation oncologist and physicists utilize the CT data set to create the optimal treatment plan. Prior to every daily treatment, verification images are obtained to monitor internal organ motion. If internal organ motion is identified, the treatment beam is re-focused on the target volume.

### Brachytherapy

Brachytherapy, literally short-distance therapy, is another radiation therapy modality affording more precision in prostate cancer treatment. MMC, the only provider of the full-spectrum of brachytherapy techniques in the region, offers both low- and high-dose rate options.

In low-dose rate (LDR) brachytherapy, the radiation oncologist places small radioactive sources through needles via a transperineal ultrasound-guided approach. The seed distribution pattern is determined intraoperatively by computer-controlled software and is designed to maximize therapeutic radiation to the cancer while limiting radiation to nearby normal critical structures. LDR brachytherapy is generally an excellent treatment option for prostate cancer with relatively low-risk features.

High-dose rate (HDR) brachytherapy, by contrast, uses single

*Continued on A6*

# Less Invasive Surgery Means Faster Recovery for Prostate Cancer Patients

Radical prostatectomy has long been viewed as the gold standard for curing clinically localized prostate cancer. However, the procedure as it is usually performed, via the retropubic approach, is quite invasive and requires a relatively long hospital stay and recovery period. These factors have decreased the acceptance of radical prostatectomy among patients considering their treatment options and fueled the development of less invasive techniques, including laparoscopic prostatectomy and radical perineal prostatectomy (RPP).

## Pioneering Approach

Munson is one of only a handful of medical centers in the U.S. where surgeons are experienced in performing RPP. Michael J. Harris, MD, an MMC urologist, pioneered the nerve-sparing and bladder neck-sparing iteration of RPP currently offered at MMC and is internationally recognized for his work in the clinical development and growing acceptance

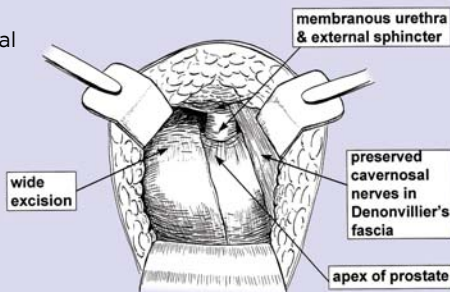
of this innovative procedure. Since coming to Munson in 1993, he has continued to analyze outcomes and make minor technical modifications to fine-tune the procedure.

## Advantages of Radical Perineal Prostatectomy

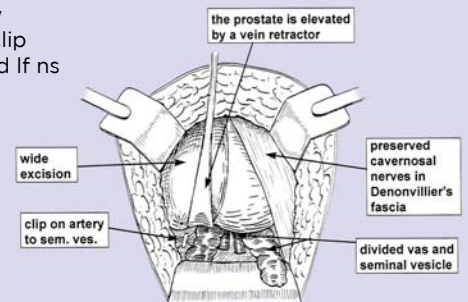
All prostatectomy procedures share the same goal – to remove the prostate and seminal vesicles while causing as little disruption as possible to sexual function and urinary continence. Cancer results, continence, and potency outcomes for RPP are equivalent to those for standard retropubic prostatectomy, but RPP is a much less invasive procedure.

There is no abdominal incision, so patients experience less pain, shorter hospital stays, and faster recoveries. Patients generally go home the day after surgery and can return to most daily activities in about two weeks.

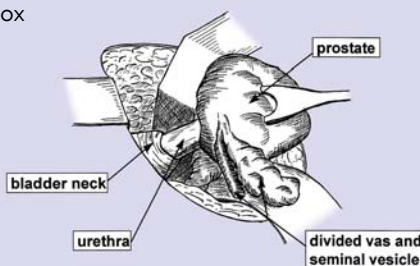
RPP line draw of complete ns & apical urethra dissected



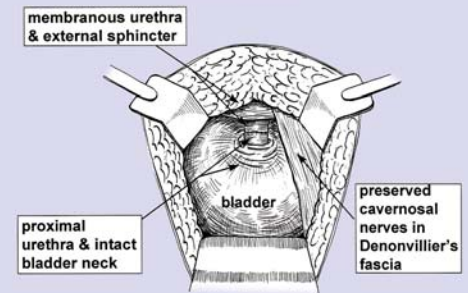
RPP line draw of rt sv with clip on vessels and lf ns



RPP line draw of prox urethra, BN ready to cut



RPP line illust of complete anastomosis



The top left picture illustrates a left cavernosal nerve preserved and a wide excision on the right side of the patient. The top right illustration shows the division of the vas and seminal vesicals before dissection of the sphincteric urethra. The bottom left picture reveals the bladder neck dissection, preserving its sphincteric mechanism. The bottom right picture shows the final result with an intact left cavernosal nerve bundle and a right wide excision for a palpable tumor. The urethra is anastomosed to an intact bladder neck.

**Targeted Radiation Therapies...** *Continued from A4*

a high-activity radiation source which remains in place for only a short period of time. Fifteen to twenty afterloading trochars are placed through the perineum into the prostate. The trochars are connected to transfer tubes which direct the computer-controlled radiation source to the targeted area. The computer calculates the optimal amount of time the radiation source is in contact with the tumor region. HDR planning gives the radiation oncologist the best control over radiation doses to the tumor and normal surrounding structures as compared to other radiation modalities.

As is true with LDR brachytherapy, patients can go home a few hours after surgery and are free to go about their daily activities. Preliminary studies suggest that HDR radiation

with high single fraction doses may be the most effective way to kill dividing prostate cancer cells.

Brown concluded, “IGRT and HDR brachytherapy are particularly welcome additions to our prostate cancer treatment strategies. They facilitate delivery of highly conformal radiation while protecting surrounding normal tissues including the rectum and bladder.”

To speak with a physician regarding radiation oncology, please call **1-800-922-7150**.

- Michael D. Aja, MD
- Douglas M. Brown, MD
- David K. Heimbürger, MD
- Robert M. Prust, MD

**Less Invasive Surgery...** *Continued from A5*

Ward R. Gillett, MD, a urologist at MMC, added, “The perineal approach avoids the dorsal venous complex and decreases the risk of excessive bleeding. MMC’s prostatectomy patients rarely require blood transfusions and are not routinely asked to bank blood against that eventuality.”

Also, the RPP approach makes it technically easier to reconnect the urethra to the bladder. When it is possible to do so without compromising cancer control, MMC surgeons offer nerve-preserving RPP, even for impotent men, because early evidence suggests it is associated with more rapid recovery of urinary control. Harris said, “With RPP, we get good margins posteriorly, laterally, and apically, good urethra at the apex, an intact bladder neck, and spared nerves.”

Because of these advantages, all prostatectomies at MMC have been performed using the perineal approach since Harris brought the technique to Munson in 1993.

**Who Benefits?**

For men with co-morbid, life-limiting conditions that put them at elevated risk for death from other causes within 5-8 years, surgery and radiation are probably not necessary. In these cases, watchful waiting may be the best option. However, for men in good health with a life expectancy of at least ten years, surgery is considered by the majority to be the most effective method of treating localized prostate cancer.

Any patient with localized disease who is a good surgical candidate is also a good candidate for RPP. Men with limited hip flexion and obese men may be difficult to position for RPP, but so far these factors have not limited access to RPP for any patient at MMC.

**Multidisciplinary Care**

MMC clinicians hope in the near future to establish a multidisciplinary model of prostate cancer evaluation and treatment, perhaps similar to the University of Michigan’s breast cancer treatment model. Patients with localized disease would be evaluated by a urologic surgeon and a radiation oncologist and would have an opportunity to learn about surgical and radiotherapy options before choosing their treatment.

Gillett said, “Patients and their physicians will be aided in making this important decision by the findings of an ongoing National Institutes of Health study. The multi-center trial compares outcomes for men treated with surgery and men treated with radiation therapy. We expect preliminary findings will be published soon, and we hope they will shed more light on which group of patients will benefit most from surgery and which from radiation therapy.”

To speak with a surgeon regarding prostate surgery, please contact one of the following physicians:

- Ausable Urology, PC**
- Brian N. Stirling, DO (989) 348-6610
- Bay Area Urology – bayareaurology.com**
- Ward R. Gillett, MD (231) 935-0322
- Robert M. Hall, MD
- Jay A. Starr, MD
- Wayne K. Stefanicw, MD
- Cadillac Urology Practice – cadillacurology.com**
- Brian R. Drabik, DO (231) 779-2565
- Stephen B. Reznicek, MD
- Northern Institute of Urology – northernurology.com**
- Michael J. Harris, MD (231) 935-0935

# Physician Opportunities

## Physician Opportunities with Munson Healthcare and Affiliates

A nationally-recognized system of six hospitals with more than 447 physicians, Munson Healthcare and its affiliated hospitals form a nonprofit system offering services to people from 24 counties.

If you have a colleague interested in relocating to northern Michigan, contact David McGreaham, MD, Munson Medical Center VPMA, at **(231) 935-6156** or [dmcgreaham@mhc.net](mailto:dmcgreaham@mhc.net). Visit [www.munsonhealthcare.org](http://www.munsonhealthcare.org) for more information on opportunities at Munson Healthcare or contact Deborah Glicker at **(231) 935-5890** or Joan Alt at **(231) 935-5889**.

## Additional Opportunities in Northern Michigan

Primary and specialty care opportunities at Alpena Regional Medical Center include: Cardiology, Dermatology, Emergency Medicine, Otolaryngology, Gastroenterology, Med/Peds, Orthopaedics, Psychiatry, and Sleep Medicine. For more information, visit [www.agh.org](http://www.agh.org) or contact Diane Sims at **(989) 356-7540**.

For information on primary and specialty care opportunities at Otsego Memorial Hospital in Gaylord, visit [www.otsegomemorialhospital.org](http://www.otsegomemorialhospital.org) or contact Skip Kasprazak at **(989) 731-7707**.

For information on primary and specialty care opportunities at War Memorial Hospital in Sault Ste. Marie including Cardiology, visit [www.warmemorialhospital.org](http://www.warmemorialhospital.org) or contact Henry Oklat at **(906) 635-7899**.

Specialty	Affiliate	Location
Dermatology	Munson Medical Center	Traverse City
Endocrinology	Munson Medical Center	Traverse City
Family Practice	Kalkaska Memorial Health Center	Kalkaska
Gastroenterology	Munson Medical Center	Traverse City
Gastroenterology	Munson Medical Center	Traverse City
General Surgery	Mercy Hospital Cadillac	Cadillac
General/Breast Surgery	Munson Medical Center	Traverse City
Hospitalist	Mercy Hospital Grayling	Grayling
Hospitalist	Mercy Hospital Cadillac	Cadillac
Infectious Disease	Mercy Hospital Cadillac	Cadillac
Internal Medicine	Mercy Hospital Cadillac	Cadillac
Internal Medicine	Munson Medical Center	Traverse City
Orthopaedic Surgery	Munson Medical Center	Traverse City
Orthopaedic Surgery	West Shore Medical Center	Manistee
Orthopaedic Surgery	Mercy Hospital Grayling	Grayling
Orthopaedic Surgery	Mercy Hospital Cadillac	Cadillac
Otolaryngology	Munson Medical Center	Traverse City
Pediatrician	Paul Oliver Memorial Hospital	Interlochen & Benzonia
Physical Medicine & Rehabilitation	Munson Medical Center	Traverse City
Physician Assistant or Nurse Practitioner	Paul Oliver Memorial Hospital	Frankfort
Psychiatry - Adult	Munson Medical Center	Traverse City
Psychiatry - Adult	Munson Medical Center	Traverse City
Rheumatology	Munson Medical Center	Traverse City
Rheumatology	Mercy Hospital Cadillac	Cadillac

### Munson Medical Center CME

Munson Medical Center provides a wide variety of CME opportunities, including several program series that are available via the REMEC TeleHealth Network, MMC's interactive video conferencing system.

For more information on CME opportunities offered through Munson Medical Center, visit [munsonhealthcare.org](http://munsonhealthcare.org) or contact Sandy Somers, RN, at **(231) 935-6546** or [ssomers@mhc.net](mailto:ssomers@mhc.net).

### Munson Healthcare

Munson Medical Center  
Munson Home Health  
North Flight  
Paul Oliver Memorial Hospital

### Affiliated Hospitals

Kalkaska Memorial Health Center  
Mercy Hospital Cadillac  
Mercy Hospital Grayling  
West Shore Medical Center