



**RADIOLOGY
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IMAGE

An Inside View of RAO

FALL | 2009

The PET/CT Difference in Colorectal Cancer



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Colorectal cancer is the second most common leading cause of cancer death in the United States. PET/CT is a well-established modality in the staging, work-up, and follow-up of patients with colorectal cancer. It provides combined functional and anatomical information about the primary tumor, potential pathologic lymph nodes, and possible metastatic sites in a single well tolerated exam.

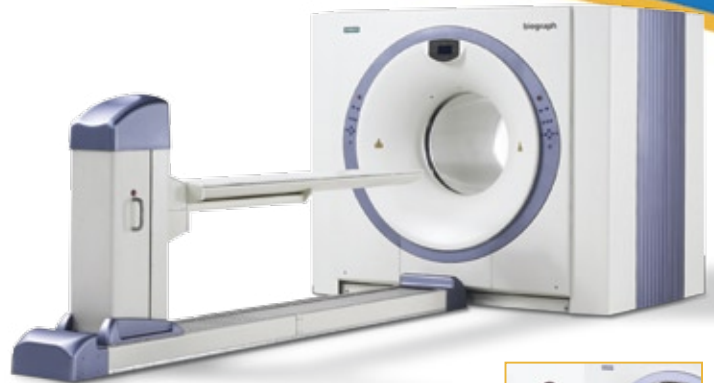
Current international guidelines do not include PET/CT in the initial workup of colorectal cancer. However, it is generally recommended when conventional imaging is equivocal or the patient is thought to have advanced disease. It is most commonly used as a staging exam and in evaluation for recurrence. In patients with rising CEA levels, it is highly sensitive in delineating the site of relapse or active disease. A recent study evaluating the usefulness of PET/CT in surveillance imaging demonstrated earlier detection of recurrence compared to conventional imaging. This allows for earlier treatment decisions thus improving patient care and consequently outcomes. It may also prevent unneeded exploratory surgery.

The specificity of PET/CT outperforms contrasted CT and MRI in assessing colorectal cancer recurrence

- 99% specific for hepatic metastases.
- Superior detection in the setting of prior hepatic resection or metastasectomy.
- Superior detection of extrahepatic metastases in locations such as the periaortic lymph nodes, portocaval lymph nodes, omentum, and peritoneum.
- Superior detection of synchronous colonic lesions, especially in those where the endoscope cannot pass the primary lesion.
- PET/CT has been advocated to impact clinical management in 21% of patients evaluated for recurrence. (Liver Metastases. PET Clinics 3 (2008); 187-195.)

PET/CT imaging is a strong adjunct in the evaluation of patients with colorectal cancer

- PET imaging can correct the staging in as many as 30% of cases, particularly patients with low rectal cancers which have an increased incidence of nodal metastases. (FDG-PET and PET/CT in Colorectal Cancer. PET Clinics 3 (2008); 147-153.)
- In patients receiving radiotherapy, PET/CT has been shown to accurately delineate response to treatment as well as tumor volume.
- After treatment, it can be particularly useful in differentiating scar tissue from tumor recurrence at the site of disease in suspect patients.



Quantification of radiotracer uptake in both normal and abnormal tissue brings additional value of PET/CT imaging in colorectal cancer

- Higher radiotracer uptake within neoplastic tissue has been shown to correlate with more aggressive disease and poorer overall outcomes.
- This uptake is quantified by the SUV (standardized uptake value) which is calculated using a formula that is specific for each patient.
- Studies have shown valuable correlation between median survival and SUV. This may help guide appropriate selection of patients for different types of treatment.

PET/CT is a powerful imaging tool in the treatment of patients with colorectal cancer. It is rapidly becoming one of the most common modalities in evaluating these patients. Many ongoing studies are currently being performed on PET/CT. International guidelines will most certainly be formally adjusted to utilize the advantages of PET/CT in the near future.

The "RAO Difference" and why it matters to you and your patients

- Experience – The first to offer PET imaging in Marion County
- Only 16-slice PET/CT scanner with the LSO crystal
- PACS Advantage – The first and only to implement a community-wide PACS system that gives you instant computer access to patient digital images from all Marion County hospitals and RAO outpatient centers
- 5 radiologists who specialize in reading PET/CT
- The only full service radiology provider in Marion County
- Rapid report turnaround

To offer suggestions for future topics or give feedback on our newsletter, please email us at news@raocala.com

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Radiology Associates of Ocala Welcomes Dr. Ryan Tompkins

Ryan K. Tompkins, MD joined Radiology Associates of Ocala in July 2009. He attended the Georgia Institute of Technology and studied Civil Engineering and Biology. After transferring to the University of Georgia, he graduated with his Bachelor of Science degree in Cellular Biology in 1998. Later he attended Mercer University School of Medicine where he earned his medical degree.

After medical school, he completed his internship at Baptist Health Systems in Birmingham, AL. He continued on to complete his diagnostic radiology residency and musculoskeletal fellowship at the University of Florida Shands Hospital.

Dr. Tompkins is Board Certified in Diagnostic Radiology. He comes to us with a great amount of knowledge and training. We are proud to announce he has joined our team of breast specialists and will also spend time focusing on musculoskeletal imaging. Dr. Tompkins is excited to be a part of the Radiology Associates team and local community.

Ryan K. Tompkins, M.D.

*Diagnostic Radiology
Breast Imaging
Musculoskeletal Radiology*

We now offer four physicians who specialize in Breast Imaging:



Mark R.V. Willard, M.D.

*Diagnostic Radiology
Breast Imaging
Nuclear Medicine*



Fredric C. Wollett, M.D.

*Diagnostic Radiology
Breast Imaging
Nuclear Medicine*



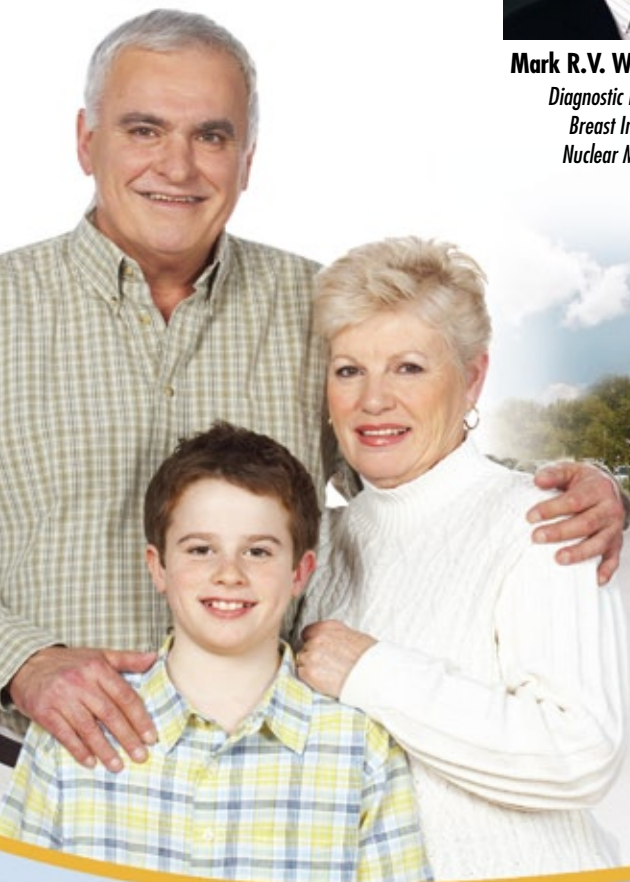
Lance P. Trigg, M.D.

*Diagnostic Radiology
Breast Imaging
Vascular and
Interventional Radiology*

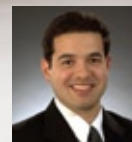


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To offer suggestions for future topics or give feedback on our newsletter, please email us at news@raocala.com



Edson G. Cortes, M.D.
IMAGE Newsletter Editor and Chief



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