

Targeted Radiation

High-dose-rate brachytherapy maximizes radiation treatments while minimizing risks.

“As good as radiation therapy is in treating cancerous tumors, it still poses a threat to nearby healthy tissue,” observes board-certified radiation oncologist Lawrence D. Hochman, DO, FACRO, of Florida Cancer Institute (FCI). “Radiation exposure is cumulative, so patients who receive traditional external beam radiation may find that their treatment options are limited in the future if their cancer recurs or if they develop new cancers.”

“High-dose-rate [HDR] brachytherapy helps reduce this limitation. It allows us to deliver precisely targeted doses of radiation either within a tumor, within a tumor cavity following surgery or very near a tumor while limiting exposure to nearby healthy tissue.”

Recognizing the importance of this leading-edge therapy for patients in their own community, the radiation oncologists at Florida Cancer Institute designed three of their offices — in New Port Richey, Brooksville and Zephyrhills — to include shielded treatment suites to accommodate a Nucletron mobile remote afterloader for delivery of HDR brachytherapy, and that equipment will be in service shortly, traveling among FCI’s offices to the patients who need it most.

Many uses

HDR brachytherapy is already used in treating a variety of cancers, including bile duct, esophageal, prostate and lung cancers. Brain cancers, too, have been treated experimentally, and other cancers are being studied.

for recurrence.”

Traditional adjuvant treatment following breast-conserving surgery is external beam whole breast irradiation five days a week for six and a half weeks.

“Whole breast irradiation leads about forty percent of women eligible for breast-conserving therapy



Lawrence D. Hochman, DO, is board certified in Radiation Oncology. He received his training in Radiation Oncology through the Baylor College of Medicine Affiliated Hospitals, The Methodist Hospital, The Houston Veterans Administration Medical Center, and Ben Taub General Hospital in Houston. Dr. Hochman has a special interest in brachytherapy for prostate, gynecological and breast tumors.

to undergo mastectomy because of the impact such a lengthy regimen would have on their lives,” says Dr. Hochman. “Twenty percent of women who have lumpectomies fail to complete recommended adjuvant radiation therapy for the same reason.”

He adds that women with gynecological cancers traditionally spend two days hospitalized in isolation while a radioactive source implanted in the vaginal canal continually delivers a low dose of radiation to the treatment area. The hospital stay is expensive, and precautions are needed to protect others from radiation exposure.

HDR brachytherapy offers a better option for treating both

types of cancer in select patients.

MammoSite brachytherapy is administered twice a day for five days. It involves placing a balloon catheter into the lumpectomy cavity and inserting a radioactive source along the catheter and into the balloon. The procedure takes about

5 to 10 minutes.

HDR brachytherapy also allows women to receive adjuvant therapy for their gynecologic cancers on an outpatient basis, with the added benefit of eliminating the risk of exposure to others.

Says Dr. Hochman, “At Florida Cancer Institute, we are

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proud to offer HDR brachytherapy as an important part of our treatment planning for patients in our community.”

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Gerald J. Robbins, MD • Lawrence D. Hochman, DO, FACRO
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Mamta T. Choksi, MD

“In West Pasco,” he informs, “we see the greatest need for HDR brachytherapy in treating breast and gynecologic cancers among patients at high risk

The Staff of FCI invite you to visit them on the Web at www.floridacancerinstitute.us.

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PROSTHETICS AND ORTHOTICS

Walking with Confidence

Above-the-knee prostheses pose special challenges for comfort, fit, and function. The Marlo Anatomical Socket design represents an important advance in this type of fabrication.

“The most important component of a prosthesis is the socket, the place where the patient’s residual limb and the prosthesis meet,” educates prosthetist Art Gagné, CP, LP, of Sonlife Prosthetics

and Orthotics, Inc. “This is especially true for above-the-knee [AK] prostheses, which must be designed to provide the support usually provided by the long bones of the leg.”

Art explains that in civil war days, a simple *plug-fit socket* was the standard for AK prostheses. “This is exactly what it sounds like,” says Art. “The amputee would literally plug his residual limb into a hollowed-out wooden socket and rely on his own body strength and balance to swing the artificial leg forward to walk.”

It wasn’t until 1954 that the *quadrilateral socket* was introduced by Charles Radcliff. Its four-sided construction provided a posterior shelf that the patient could rest on to help in transferring weight from one side of the pelvis to another while walking.

Next came the N.S.N.A. (normal shape, normal alignment) socket. This socket has a *narrow medial/lateral* contour. It was designed by Ivan Long in 1974 and featured a more anatomical shape in socket design. “This design is seen in a majority of sockets today,”

informs Art. “It draws the femur into proper orientation to the midline of the body and allows a more normal gait. With Long’s improvement, AK amputees could look forward to more active lifestyles.”

It was another 25 years before the next revolution in AK socket design came along.

M.A.S. breakthrough

In 1999, engineer-prosthetist Marlo Ortiz responded to a patient’s request for something that would provide a more cosmetic appearance in the gluteal area while wearing an AK prosthesis.

“Ortiz accomplished this by reducing the height of the posterior wall of the socket so the gluteus maximus was no longer contained,” describes Art. “In so doing, Ortiz also provided his patient with greater range of motion, increased comfort, and better cosmetic appearance.”

And so the Marlo Anatomical Socket (MAS) design was born.

“This socket design provides more support to create a bony lock that enhances femoral stabilization,” continues Art. “As the hip

is flexed and extended, the MAS design results in a greater range of

motion on the prosthetic side.”

In addition to providing a more natural appearance, the MAS design improves proprioception (awareness of the

The MAS earned for Ortiz the prestigious 2007 Blatchford Prize for innovative achievement in orthotics and prosthetics.

position of the body in space), comfort while sitting, and active and passive range of motion.

“Meticulous volume matching between the socket and soft tissues of the thigh provides both quasi-hydrostatic weight bearing and excellent femoral stabilization,” says Art. “This socket is best used with a suction suspension, whether it be a skin fit or suction liner fit.”

Precise measurement and volume matching means that while standing in a properly designed and fitted MAS socket, the amputee should be unable to pinpoint where they are bearing their weight.

The MAS socket design permits many patients to walk with more confidence and less effort, and it is suitable for patients with a variety of residual limb configurations, including short limbs and muscular or fleshy limbs.

“Patients requiring AK prosthetics can enjoy unprecedented comfort, range of motion, and cosmesis thanks to the MAS socket design,” assures Art, “and at Sonlife Prosthetics and Orthotics we are pleased to make this important innovation available.”

FHCN—Bille S. Noakes



DAVID S. GORIS, LCPO
JONATHAN J. ROY, LP
ART GAGNÉ, CP, LP
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Inspired solutions

At Sonlife Prosthetics and Orthotics, caring professionals put their years of experience to work for you. To learn more about their full range of prosthetic and orthotic services, please call or visit one of their offices.

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