

Central Maine Medical Center

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CMMC AND RED CROSS OPEN BLOOD DONOR CENTER IN LEWISTON

Central Maine Medical Center and the American Red Cross opened New England's first satellite Red Cross apheresis platelet and red cell collection center at CMMC in mid-December.

“There is a growing need for platelets in our region and we wanted to do something that would raise awareness of this need and encourage people to consider becoming platelet donors. Offering a local collection site makes it easier for donors to make that commitment, providing more lifesaving products for patients undergoing chemotherapy and other serious medical conditions,” said Johanna Ward, transfusion service manager at CMMC.

Cancer survivor Deb McIntosh of Lewiston echoed Ward’s assessment of the benefits the new center offers to blood donors.

“I think it’s wonderful. It’s going to be so much easier for people to donate. The new center will help make more people aware of the need for blood products. There are many people who need blood products. I, for one, wouldn’t be here without them,” said McIntosh.

Located on the ground floor of CMMC’s Memorial Wing, The Red Cross Blood Donor Center at CMMC is presently operating two days a week. The center incorporates new technology previously not available in the region. For those who regularly donate blood platelets, the new service eliminates the need to travel to Portland to make a donation. Red Cross nurses and collection specialists staff the blood donor center at CMMC.

Apheresis platelet collection is an automated process that gathers only the platelets found in whole blood. Platelets are tiny cell fragments that clump together to help stop bleeding. Platelet transfusions are necessary for patients with a variety of blood diseases, including cancer. The blood component is also used to replace platelets destroyed during chemotherapy and radiation therapy for cancer and other diseases.

Platelet donors give blood in a manner quite similar to whole

blood donations. However, during the apheresis process, the blood is separated into its various parts and all but the platelets are returned to the donor.

The Blood Donor Center at CMMC features double red cell collection – a new technology that allows donors to give twice the number of red blood cells in a single donation than previously possible.

Through the automated red cell collection process, a blood donor can contribute at one time the same number of red blood cells contained in two units of blood collected through conventional means. But while the process collects more red blood cells, it actually removes less blood volume from the donor. Essentially, the automated system removes red blood cells and returns the remaining blood components to the donor. The procedure is very safe because the donor’s blood cannot come in contact with the processor or another donor’s blood.

“Both the apheresis platelet and double red collections are extremely important in maintaining a safe and adequate blood supply,” says Ward. “Because platelets have a short shelf life of only five days, platelet donors are constantly needed to replenish our inventory. Type A and B donors are particularly encouraged to consider becoming platelet donors because these blood types are most needed for platelet transfusions. Type O donors are urged to look into the double red cell program since Type O red cell inventories are usually the first to feel the effects of a blood shortage.”



FIRST DONOR – Sasha Lucey, a collection specialist with the American Red Cross, assists Jerry Marstaller with a blood donation at the newly-opened Red Cross Blood Donor Center at Central Maine Medical Center. Marstaller, Central Maine Healthcare’s regional benefits and compensation manager, has given blood 116 times and has donated some 14 gallons. Anyone seeking more information about The Red Cross Blood Donor Center at CMMC is urged to call the Red Cross Pheresis Donor number: 1-800-272-2114.



PREMATURITY IMPACTS WIDE RANGE OF HEALTHCARE ISSUES

The March of Dimes and Central Maine Medical Center, supported by several businesses, noted Prematurity Awareness Day on November 15 by lighting the Great Falls on the Androscoggin River in blue and pink.

Many Maine physicians may wonder how this observance illuminates their practices, and how much prematurity matters to their epidemiologically aging patients.

“I believe it matters a great deal,” answers Marc Perlman, M.D., chief neonatologist at CMMC. “The interdisciplinary importance of prematurity can be understood from many perspectives, including public- and patient-centered care, emerging long-term changes in illness trajectories, and healthcare costs.”

Despite impressive technological advances in neonatal research and practice – including an improvement in survival to over 70 percent in the 1990s from 30 percent in the mid-1970’s – prematurity (birth before 37 weeks gestation) remains the most common reason for NICU admission and prolonged treatment.

“From a public health stance, prematurity is a growing health problem,” says Dr. Perlman. “Over 12 percent of U.S. births are pre-

term, and as survival has increased, even at the soft margins of viability, so has the number of surviving children with serious chronic physical and neurodevelopmental morbidity.” (See Figure 1.)

Dr. Perlman says effective preventive and treatment strategies will not occur “in vacuo,” but will require interdisciplinary understanding and cooperation. Good and accessible general medical treatment, pre-conception care, and reductions in sexually transmitted infections, obesity and substance abuse (including tobacco and alcohol) are fundamental to prematurity prevention and treatment, and involve all the region’s doctors.

“Helping families make good, well-informed decisions in the face of threatened extremely preterm delivery, fetal illness or serious congenital malformations is a process that often begins outside the NICU, and involves primary care and specialist doctors, parents, as well as non-NICU based nurses, chaplains, and social workers,” he says.

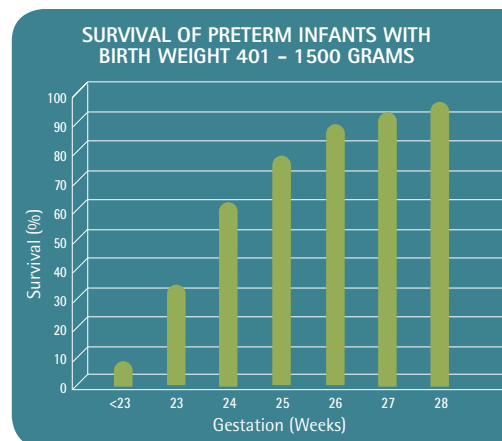
From the patient’s and family’s perspective, access to high-quality, local post-neonatal care and treatment is paramount. Nearly all primary care doctors and many specialists will treat NICU “graduates” as infants and children, and later as adults with new trajectories of chronic illness.

“Doctors must accommodate the needs of fragile children with prematurity-related disease, and fragile families, at risk for breakup and abuse. Finally, the healthcare costs of prematurity are staggering; \$18 billion was

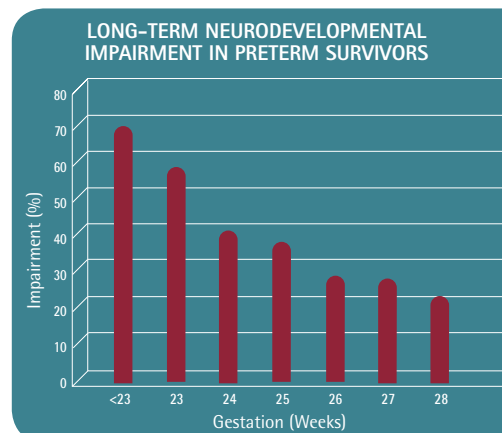
spent nationally in 2003. In poor rural states, like Maine, doctors working within and outside of neonatology need to work in an interdisciplinary fashion, and to adopt a more holistic worldview of prematurity as prerequisites for understanding and advising treatment and allocation decisions that are more than just technologically sound, but that are meaningful to patients and families, and that are professionally and morally sound.”

References concerning this article can be found at www.cmmc.org/res-links.html

CMMC NICU 795-2500



Source: Vermont Oxford Network Database, 2000



Impairment includes one or more of the following: mental retardation, cerebral palsy, blindness, deafness. Source: Published literature

CARTILAGE INJURIES: EARLY RECOGNITION AND AGGRESSIVE TREATMENT CAN LEAD TO IMPROVED FUNCTION AND PREVENT ARTHRITIS

Sprains are the most common sports injury to the ankle. Chronic sprains can cause damage to the articular cartilage, including the talus.



Eric Giza, M.D.

In fact, it's estimated that 6.5 percent of all ankle sprains involve injuries to the talus. Early recognition and aggressive treatment of articular cartilage injuries can lead to improved function and prevent arthritis, according to orthopedic surgeon Eric Giza, M.D., of Central Maine Orthopaedics in Auburn, Maine.

As a former collegiate soccer player, Dr. Giza has long had an interest in soccer injuries, including foot and ankle problems. His experience in sports medicine includes work as an assistant team physician for the New England Revolution professional soccer team. He is an associate team physician for the U.S. Soccer Federation. His medical interests extend to arthroscopy of the ankle,

knee, hip and shoulder. He's also involved in cartilage biosurgery and cartilage transplantation research.

SOME BACKGROUND INFORMATION ABOUT ARTICULAR CARTILAGE

Articular cartilage is a viscoelastic material that allows variable load bearing during daily living and athletic activities. Dr. Giza says the material serves an important role in reducing stress and friction on the subchondral bone.

The characteristics of articular cartilage are dependent on its structural organization, which under normal conditions is composed of extracellular matrix, chondrocytes, and water. Water concentration varies from 65 percent to 85 percent and is dependent on loading and/or presence of degenerative changes. Nutrition and viability of the chondrocytes is sustained by the synovial fluid environment in the joint. The lack of vascular healing capacity after chondral injury can lead to chronic lesions of the articular surface, which contribute to joint degradation and arthritic change, Dr. Giza explains.

OSTEOCHONDRAL LESIONS OF THE TALUS

"Chronic sprains or acute injury can lead to damage of the articular surface. Patients with cartilage damage to the talus may complain of swelling and medial or lateral ankle pain associated with training. An ankle sprain that hasn't completely healed by eight weeks should raise suspicion of a talus cartilage injury," Dr. Giza says.

The patient may have a normal exam without evidence of instability; however, direct pressure over the talus with the ankle in plantarflexion will elicit tenderness. Plain radiographs of the ankle can only identify 50 percent to 66 percent of lesions, and the only evidence may be an inconsistency in the trabecular bone of the talus. MRI is superior to radiographs for determining the location and size of the lesion. Bone edema and potential stability of the fragment can be determined on MRI, which is useful for operative planning, he explains.

"Researchers have shown that traumatic lesions occur on both the lateral and medial aspects of the talar dome. At arthroscopy, 20 of 65 patients studied had lateral dome injuries. The lateral injuries were more often delamination type injuries and the average time to presentation was 1.5 years. Medial lesions occurred in 45 of 65 patients, 35 of the 45 were



associated with a single traumatic event, and the average time to presentation was three years. This study underscores the importance of prompt MRI in cases with suspected talus lesions,” Dr. Giza says.

Conservative management of a stable lesion can be attempted with limited weight-bearing in a walking boot for three months. However, Dr. Giza adds, ankle arthroscopy is recommended for most lesions, and is an effective means for diagnosis and treatment of lesions of the talus. “Up to 85 percent of patients improve after arthroscopic drilling or curettage,” he says.

“Another group of researchers demonstrated improved outcomes when damaged cartilage was removed and microfracture was performed, as compared to indirect, subchondral drilling. Larger lesions that don’t improve by four months after arthroscopy should be considered for osteochondral grafting or autologous chondrocyte implantation,” Dr. Giza says.

Osteochondral grafting of defects has yielded 91 percent to 94 percent good to excellent results, he adds. Arthroscopic autologous chondrocyte implantation procedures using collagen or hyaluronic membranes have shown favorable results and will likely become the standard of care for these lesions.

MATRIX AUTOLOGOUS CHONDROCYTE IMPLANTATION (MACI): THE FUTURE OF CARTILAGE CARE

The standard periosteal autologous chondrocyte implantation (ACI) technique has been used in knees since 1987 and has proven results in the treatment of articular cartilage lesions. The procedure involves a joint arthrotomy, harvesting of a periosteal patch, suturing the patch to the talar defect, sealing the defect with fibrin glue, and injecting cultured cells under the patch. Patients undergo extensive rehabilitation for up to 10 months, but long term year outcome studies show that 78 percent of patients have good to excellent results, Giza says.

MACI is an accepted alternative to periosteal ACI, and represents the second generation of articular cartilage repair. The chondrocytes are cultured on to a type III/I collagen membrane that is

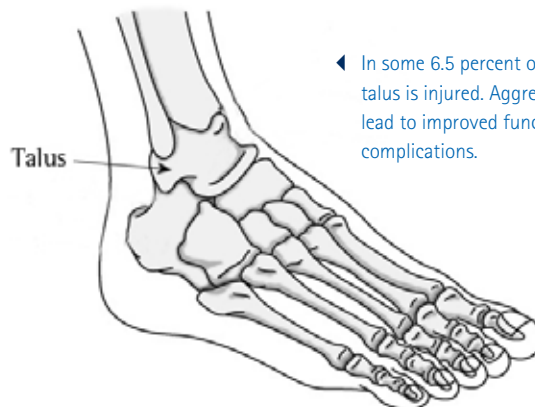
trimmed to fit the defect and anchored with fibrin glue. The MACI technique allows for treatment of cartilage lesions through a limited incision or via arthroscopy.

In conjunction with the Foot and Ankle Clinic of Sydney, Australia, Dr. Giza is involved in a two-year prospective study to evaluate the use of MACI in the treatment of cartilage defects of the talus. Preliminary results at one year have shown statistically significant improvement in pain and function scores.

Dr. Giza is also involved in articular cartilage research of the knee in conjunction with the Santa Monica Sports Medicine Foundation and Dr. Bert Mandelbaum. Trials for MACI technology in the United States are forthcoming.

References concerning this article can be found at www.cmmc.org/res-links.html

**Central Maine Orthopaedics
1-800-571-2222**



◀ In some 6.5 percent of ankle sprains the talus is injured. Aggressive intervention can lead to improved function and forestall later complications.

CMMC BECOMES REGIONAL SERVICE HUB AS EMERGENCY MEDICINE CAPABILITIES GROW



Though emergency medical services are available at most hospitals today, the development of emergency medicine as a specialty is a relatively recent phenomenon. Central Maine Medical Center was the first hospital in Maine to open a full-time, around-the-clock emergency service in the summer of 1970.

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The innovative spirit that led to the establishment of the state's first "emergency room" in Lewiston was again evident in the 1980s when CMMC became the resource hub for a regional emergency medicine program that included Bridgton and Rumford hospitals. By the mid-90s, CMMC had created a trauma surgery program and become one of just three regional trauma hospitals in Maine. In 1998, Central Maine Healthcare (CMH), CMMC's parent company, joined with Eastern Maine Healthcare in Bangor to found LifeFlight of Maine, a medical helicopter service.

Kevin Kendall, M.D., a CMMC emergency physician who has administrative responsibilities for pre-hospital emergency medical services, says the pioneering character of the hospital's emergency medicine service grows from its focus on "unity and diversity."

"CMMC and its partners support what some consider to be the most outstanding emergency medicine practice in the state of Maine. This distinction arises from the efforts of a unified emergency service that embraces the diversity of the region that it serves," says Dr. Kendall.

The diversity of the region can be seen in the emergency departments that are staffed by CMMC emergency physicians, Dr. Kendall explains. "There are four emergency departments, each at a different hospital serving a unique area. From Rumford Hospital, deep in rural, largely mountainous Oxford County, to Bridgton Hospital in the Lakes Region of southwestern Maine, to Parkview Adventist Medical Center in coastal Brunswick, to CMMC in Lewiston, the state's second-largest population center, we serve a varied population in a diverse region," he says.

Since taking on a more regional mantle in the mid-1970s, CMMC has grown into a dynamic referral center for a host of medical and surgical specialties. This growth path led to the establishment of a high-quality trauma program and the creation of LifeFlight of Maine. A crowning moment came in 2003 with the opening of the

Central Maine Heart and Vascular Institute.

"As a trauma and cardiac referral center, and with an Emergency Department that sees close to 50,000 visits per year, our emergency physicians care for a diverse and challenging mix of patients. Our doctors get a range of experience that couldn't be found in a single hospital environment," Dr. Kendall says.

An important benefit of working for Central Maine Healthcare is the time that physicians spend away from the parent institution, staffing the smaller hospitals in Brunswick, Rumford and Bridgton, according to Dr. Kendall. "Each hospital is unique in many ways and offers a pleasant change. Our emergency medicine physicians enjoy the camaraderie of the small medical staffs at each of these hospitals. In addition, we bring an expertise in emergency medicine to these smaller hospitals that would be difficult to find if each hospital's emergency department operated independently," he explains.

"Staffing these four hospitals are dedicated, hard-working physicians. Through teamwork and camaraderie, these doctors bring unity to the four hospitals and exceptional care to the patients they serve," says Dr. Kendall. "The unity of our staff and the diversity that they experience combine to create an exceptional emergency medicine program that provides outstanding basic and referral services to the citizens of central and southern Maine."

CMMC Emergency Department
795-2200

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