

The orthopedic-oncology service : a multidisciplinary team



The orthopedic-oncology service at Maisonneuve-Rosemont Hospital provides care to patients from the many regions of Quebec and the Maritimes. This hospital is one of the three reference centres in Quebec, specializing in the treatment of musculoskeletal tumours.

The orthopedic-oncology service treats approximately 400 patients each year and we also work in partnership with the Ste-Justine Children's Hospital.

We treat malignant tumours, otherwise known as sarcomas, as well as other tumours which affect bone and soft tissues.

The types of sarcomas most frequently treated are :

- Osteosarcomas ;
- Ewing's sarcomas ;
- Chondrosarcomas ;
- Soft tissue sarcomas (liposarcomas, synovial sarcomas), etc.

We also treat benign tumours, which represent approximately 58% of new patients evaluated each year.

The orthopedic-oncology team works in a multidisciplinary fashion, meaning that it functions in partnership with other specialties in the field, such as oncologic surgery, diagnostic radiology, pathology, radiation-oncology and medical oncology. On the paramedical level, the team includes specialized nursing care, physical therapy, a social worker, a psychotherapist and a research team.

Any decision pertaining to the treatment of a patient is, therefore, a consensus between different experts. This pamphlet will be useful in understanding the different stages of your diagnosis and treatment, and will also serve as a guide to orient your questions toward the right people.

The diagnosis of a tumour is a difficult ordeal for you and those surrounding you. It is therefore important to be able to understand the necessity of the different diagnostic examinations, as well as the implications of the different treatments on your lifestyle. Throughout your treatment, you will be meeting different specialists of the orthopedic-oncology department.

Diagnostic imaging

You will have to undergo different examinations in order for your doctor to be able to formulate a precise diagnosis. Imaging techniques used for such evaluations may include x-rays, which evaluate the extent to which the skeleton may have been affected by the tumour, as well as your lungs.

The CT-scan functions like the standard x-ray. However, the CT-scan produces images in fine layers and from different angles, allowing for more precise and in depth images. This examination is generally used to verify the state of your lungs, and sometimes other regions of the body, such as the abdomen.

Magnetic resonance creates precise images of soft tissues such as the muscles, tendons, liquids, nerves, etc. without having to resort to x-rays. The apparatus uses magnetic waves to vibrate the tissues of your body in order to create the image. There is no radiation associated with this examination, which is painless. The images obtained by this procedure are essential, for they determine which structures are invaded by the tumour and allow the team to decide upon the best course of treatment.

The biopsy

The goal of a biopsy is to sample the tissue of a mass so that it may be submitted to a microscopic examination by a qualified pathologist. There are several forms of biopsies.

Biopsies may be carried out at the outpatient clinic using a special needle. Local anesthesia, similar to that used by dentists, renders the procedure nearly painless. The procedure is comparable to a blood test. On occasion, a CT-scan may be used to guide the needle to the desired area. If this is the case, the biopsy will take place in the radiology department at a later date.

In more difficult cases, it is necessary to perform an open biopsy in the operating room. This consists of a small operation that allows for a larger sample of the tumour. This type of biopsy leaves a scar of variable length, generally less than 5 cm.

In all cases, the care of the wound will be explained to you. Painkillers will be prescribed to you for the pain, which may be present for 24 to 48 hours following the biopsy.

The definitive results of your biopsy are usually available in the seven to ten days following the procedure. A further delay is sometimes necessary if certain special tests have been requested. Your surgeon will communicate the results of your biopsy to you once they are available, whether by appointment at the clinic or by telephone. You may discuss how you wish your orthopedist to communicate the results of your biopsy to you.

The treatments

Following the diagnosis of your tumour, the specialist doctor will decide upon the best form of treatment to adopt, and whether or not radiotherapy, chemotherapy, and/or surgery will be necessary. In certain cases, surgery is the only appropriate form of treatment. The optimal form of treatment is decided upon at a multidisciplinary conference, where different experts analyse your file, the histological results of your biopsy and your x-rays.

Radiotherapy

Radiotherapy uses the ionizing radiation of a linear particle accelerator to destroy cancerous cells. The radiation destroys the DNA of the cancerous cells, rendering them incapable of multiplication.

The healthy cells surrounding the cancerous cells are also damaged by the radiation, but they are generally capable of repairing themselves.

The objective of radiotherapy is to allow for a better local control of the tumour.

Chemotherapy

Chemotherapy is used in the treatment of certain sarcomas. It can be administered before surgery in cases where the volume of the sarcoma must be reduced in order to allow for a more conservative surgical procedure. This is called neoadjuvant chemotherapy.

Chemotherapy may also be administered after surgery so as to diminish the risk of a recurrence of the cancer. Palliative chemotherapy may also be offered to allow for control of the disease while maintaining an acceptable quality of life. Unfortunately, chemotherapy is not an effective treatment for all kinds of sarcomas, as some tumours are more sensitive to this treatment than others.

Surgery

In some cases, surgery is the only effective form of treatment. The goal of an operation is to eliminate the tumour, as well as any neighbouring structures that have been affected. In rare cases, when too many essential structures have been affected (including blood vessels and nerves), an amputation may be the only solution.

Personal resources

It is important that you be capable of understanding your illness, as well as the treatments that you will be receiving. Your ortho-oncological specialist will follow you throughout your treatment and keep in contact with the pathology, radiotherapy, chemotherapy and imaging departments. Many of our patients being treated for a malignant tumour consult our psychotherapist. The nurse manager is responsible for the coordination of the different services and remains an available resource after your departure from the hospital, if needed. It is possible that the research team will propose different studies for you to participate in.

Do not hesitate to contact us for more information.

Orthopedic-oncologic surgeons



Dr Marc Isler

Tel. : 514 254-6161 / Website: <http://www.hmrortho.ca>



Dr Sophie Mottard



Dr Louis-Philippe Amiot

Diagnostic x-ray service



Dr Marie-Josée Berthiaume

Tel. : 514 252-3400, ext. 6114

Mme Sophie Tremblay, senior assistant

Pathology service



Dr Josée Doyon

Tel. : 514 252-3498

Radio-oncology service (Radiotherapy)



Dr Pierre Chabot Dr Nader Khaouam
Tel. : 514 252-3400, ext. 3425

Medical oncology service (chemotherapy)



Dr Jean-Luc Dionne Dr Julie Beaudet
Tel. : 514 252-3400, ext. 3954

Nurse manager



Carole Douville
Tel. : 514 252-3400, ext. 6165

Équipe de recherche



Janie Barry
Tel. : 514 252-3400, ext. 4428 / Email: jbarry.hmr@ssss.gouv.qc.ca

Psychotherapist



Robert Langlois
Tel. : 514 252-3400, ext.

Psychotherapist



Claudia Maltais
Tel. : 514 252-3400, ext. 6561



Stéphanie Fradette

Users' committee



President : Louis-Gilles Faucher
Tel. : 514 252-3925
Email : cusagers.hmr@ssss.gouv.qc.ca

Hôpital Maisonneuve-Rosemont

Adresse postale

5415, boul. de l'Assomption
Montréal (Québec) H1T 2M4
514-252-3400

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