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# **Testicular Cancer**

## ****Types of Testicular Cancer****

Testicular cancer affects approximately 1,100 Canadian men each year. Testicular cancer is most commonly diagnosed between the ages 20 and 34. The three most common types of testicular cancer include:

* Germ cell tumors: this accounts for 90% of all testicular cancers. This form of testicular cancer begins in the germ cells that produce sperm.
	+ Seminomas: often develop in men in their 40s
	+ Non-seminomas: often develop in men between their late teens and 30s
* Non-germ cell tumors
* Sex cord stromal tumors: This form of testicular cancer develops in the stroma (supportive tissue in the testicle)

Cancer that has developed in other parts of the body can spread to the testis. This is referred to as testicular metastasis or secondary testicular cancer.

# **What Risk Factors Cause this Cancer?**

Risk factors for testicular cancer include:

* Undescended testicle(s)
* Abnormal development of the testicles
* Family or personal history of testicular cancer
* Calcium deposits in the testicle
* Tall adult height

## ****What are the Clinical Manifestations?****

Testicular cancer often does not cause any signs or symptoms early on in the course of the condition. They begin to appear as the tumor grows. Some of these signs or symptoms include:

* Painless lump in the testicle
* Swelling (the testicle is larger than usual)
* Feeling of heaviness in the scrotum or abdomen
* Build up of fluid in the scrotum
* Enlarged lymph nodes in the neck
* Pain in the testicle, scrotum, back, abdomen, or chest
* Trouble breathing, shortness of breath or cough
* Pleural effusion (build up of fluid around the lungs)
* Ascites (build up of fluid in the abdomen)
* Weight loss
* Breast soreness or growth
* Signs of puberty in boys at an earlier than expected age
* Infertility
* Headaches

## ****What are the Possible Side Effects of Treatment?****

1) Surgery:

* Pain around the surgical site
* Nausea and vomiting
* Bleeding around the surgical site
* Wound infection
* Body image changes
* Sexual dysfunction
* Fertility issues

2) Radiation Therapy:

* Fatigue
* Nausea and vomiting
* Diarrhea
* Stomach ulcers
* Skin changes in the area of radiation
* Sexual dysfunction
* Fertility issues
* Development of a second cancer (highest risk when combined with chemotherapy)

3) Chemotherapy:

* Nausea and vomiting
* Diarrhea or constipation
* Low blood cell counts
* Fatigue
* Alopecia
* Sore mouth and throat
* Loss of appetite and weight loss
* Fertility, sexual and continence problems
* Kidney, lung, nerve and blood vessel damage
* Changes to the skin, nails and/or taste buds
* Development of a second cancer (leukemia most common)

## ****What is the Role of Physical Therapy and Rehab?****

The goals of rehabilitation depend on the extent of the disease and the treatment that a patient has received. Physical Therapy can help:

* Decrease cancer-related fatigue and other treatment related side effects
* Provide support for return to activities of daily living, returning to work and recreational activities, both during and after treatments
* Pain management
* Improve your energy levels, cardiovascular endurance and overall strength
* Improve psychological well-being and quality of life
* Establish healthy lifestyle habits for life-long wellness and prevention of future cancers

## ****References & Resources****

* National Cancer Institute: <https://www.cancer.gov/types/testicular>
* Testicular Cancer Statistics. Canadian Cancer Society. Available at: <http://www.cancer.ca/en/cancer-information/cancer-type/testicular/statistics/?region=on>
* Gilligan, T. Quality of life among testis cancer survivors. Urologic Oncology: Seminars and Original Investigations. 2015; 33: 413-9
* Christensen, JF., Bandak, M., Campbell, A., Jones, LW., Hojman, P. Treatment-related cardiovascular late effects and exercise training countermeasures in testicular germ cell cancer survivorship. Acta Oncologica. 2015; 54: 592-9

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## ****References & Resources****

* Macedo, F., Ladeira, K., Pinho, F., Saraiva, N., Bonito, N., Pinto, L., & Gonçalves, F. (2017). Bone metastases: an overview. Oncology reviews, 11(1).
* Brodowicz, T., Hadji, P., Niepel, D., &Diel, I. (2017). Early identification and intervention matters: A comprehensive review of current evidence and recommendations for the monitoring of bone health in patients with cancer. Cancer treatment reviews.
* Downey, S.E., Wilson, M., Boggis, C., Baildam, A.D., Howell, A., & Bundred, N.J. (1997). Magnetic resonance imaging of bone metastases: a diagnostic and screening technique. British hournal of surgery, 84(8), 1093-1094.
* Traill, Z., Talbot, D., Golding, S., & Gleeson, F.V. (1999). Magnetic resonance imaging versus radionuclide scintigraphy in screening for bone metastases. Clinical radiology, 54(7), 448-451.
* American Cancer Society. (2016). Understanding bone metastasis. Retrieved from http://www.cancer.org/treatment/understandingyourdiagnosis/bonemetastasis/bonemetastasis-what-is-bone-mets
* American Society For Radiation Oncology (ASTRO). (2013). Radiation therapy for metastases to the bone. Retrieved from http://rtanswers.org/uploadedFiles/Treatment\_Information/Brochures/BoneMetsBrochur.pdf

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