

# Surgical margins for radical prostatectomy

## Key Messages

- The positive surgical margin rate is less than 25% for patients with prostate cancer, treated at the partner hospitals of the Rossy Cancer Network (RCN), which is within target.

## Background

A radical prostatectomy is the complete removal of the prostate. Only millimeters away from the edge of the prostate are important bundles of nerves that control erectile function and are in close proximity to the urinary sphincter. The surgeon must perform a delicate balancing act – cut out the prostate and enough surrounding tissue to completely remove the cancer, but leave enough nerves to preserve erectile function and bladder control.

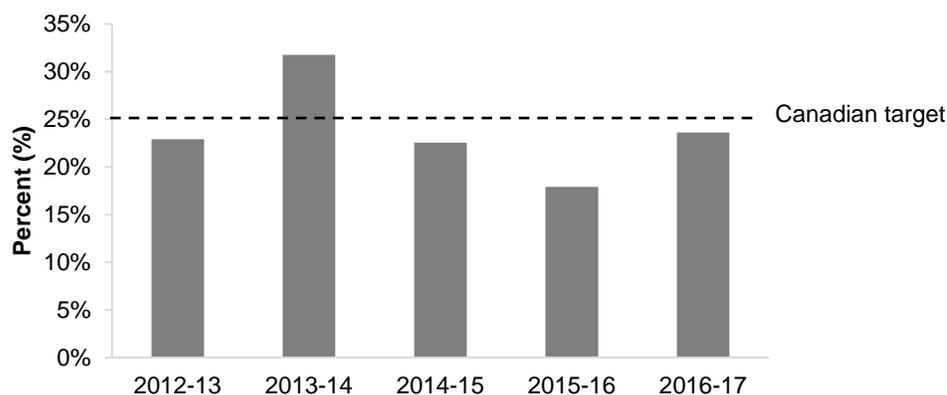
When a pathologist detects cancer cells right at the border of the removed tissue, the margins are said to be positive, suggesting that all of the cancer may not been removed. Positive surgical margins (PSMs) can generate anxiety among affected patients and can increase the risk of the cancer coming back, although it is not the only risk factor.

The rate of PSM is widely regarded as an outcome measure of surgical quality. Within the RCN, radical prostatectomies are performed by experienced urologists (surgeons) at the MUHC and JGH. While the PSM rate can vary between surgeons and hospitals, there is evidence that high-volume surgeons and centres obtain better surgical results.

A consensus guideline published in the Canadian Urological Association Journal in 2010 determined an acceptable PSM rate of <25% for organ-confined disease (pT2).<sup>1</sup>

## Charts and Tables

Fig 1: Rates of positive surgical margins for pT2 disease



Source: Cancer registry, pathology reports

## What do the results mean?

The goal of a radical prostatectomy is to make the patient cancer free. Within the partner hospitals of the RCN, radical prostatectomies are only performed at the MUHC and JGH. We expect all centres to attain a PSM rate of <25% for pT2 disease. Since 2014-15, the PSM rate has been within the target. This is consistent with the PSM result of 25% (range 21-35 percent) obtained from the Procure Quebec Prostate Cancer Biobank for four university teaching hospitals (MUHC, CHUM, CHUQ, and CHUS) from 2007-2012 (1162 cases).<sup>2</sup>

The risk of having a PSM does not depend on the type of procedure (open, laparoscopic, or robotic), as long as it's done by an experienced surgeon. While surgical expertise is cited as one of the major determining factors of PSM, other factors can also increase the risk of having PSM. These include:

- Higher Gleason score (a measure of how aggressive the cancer is)
- Nerve-sparing procedure
- Size of the cancer within the prostate
- Location of the cancer within the prostate

## Efforts in this area

The goal of measuring surgical outcomes is to improve the quality of care received by cancer patients. The RCN Genitourinary Disease Site Group is currently evaluating the PSM with additional risk factors. Surgeons performing radical prostatectomies now receive their PSM rate compared to the group average. This allows individual surgeons to compare their outcomes and adjust their surgical technique when felt appropriate.

## Data Specifications

<b>Definition</b>	Percentage of pT2 prostate cancer patients with positive surgical margins
<b>Data Source</b>	Cancer registry, pathology reports
<b>Numerator</b>	pT2 prostate cancer patients who underwent a radical prostatectomy in the reporting year and that had a positive surgical margins following radical prostatectomy
<b>Denominator</b>	pT2 prostate cancer patients who underwent a radical prostatectomy in the reporting year.
<b>Exclusions</b>	None
<b>Measurement timeframe</b>	Yearly

## References

- <sup>1</sup> Webster TM, Newell C, Amrhein JF, Newell KJ. Cancer Care Ontario Guidelines for radical prostatectomy: striving for continuous quality improvement in community practice. *Can Urol Assoc J* 2012;6:442-5.
- <sup>2</sup> Armen Aprikian, MD. Chairman of the Procure Quebec Prostate Cancer Biobank. Personal communication.



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