

Why are We Monitoring and Reporting on the Percentage of Elective Diagnostic Cardiac Catheterizations (CATH) Where Significant CAD is Found?



Did you know last year 16,047 elective CATHs were performed on patients that did not find significant coronary artery disease?

In FY 2018/19,

69,943

diagnostic cardiac catheterizations were done at a cost of \$50,708,675

30,619

of those CATHs were 'Elective'³

16,047

Elective CATHs were done where Significant CAD was not found (52.5%) at a cost of \$11,643,075

While CATH is one of the most widely performed cardiac procedures, it is an invasive procedure and while rare, patient related, and procedure-related complications do occur

The risk of major complications associated with CATH is less than 1% with a risk of mortality of 0.05%¹. At these rates, based on Ontario's volumes, Ontario would experience approximately 700 major complications and 35 deaths annually.



List of Complications²

- Death <0.05%
- Myocardial Infarction <0.1%
- Stroke 0.05% to 0.1%
- Dissection and perforation of vessels
- Atheroembolism
- Acute Renal Failure
- Arrhythmias

References

¹Tavakol M, Ashraf S, Brener SJ. Risks and complications of coronary angiography: a comprehensive review. Glob J Health Sci. 2012 Jan 01;4(1):65-93.
²Manda YR, Baradhi KM. Cardiac Catheterizations, Risks and Complications. StatPearls [Internet]. Nov 13, 2018

Methods Footnote

³according to the QPMM definition (43.8%)

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Drivers that Contribute to the Normal CATH Rate

The rate of 'Elective CATHs in Which Significant CAD is Identified' is influenced by several system level factors. While these factors are challenging to change, they do not infer that improvement is not possible.

Geography

Long travel distances for patients may influence the decision for patients to skip non-invasive pre-CATH testing and go directly to CATH

Quality of Non-Invasive pre-CATH testing

In some areas, false positive rates of non-invasive pre-CATH testing may be influencing the rates of Normal CATH

Access to Non-Invasive pre-CATH testing

Access and wait times for non-invasive pre-CATH testing, including Computed Tomography (CT), may influence the decision for patients to go directly to CATH

Incentives and other contributing factors

The current CATH funding model and hospital volume targets in Ontario may be incentivizing high CATH volumes

Competition for volumes in urban settings may be influence decisions to CATH low risk patients

Discomfort among some CATHing physicians in refusing or challenging another physician's decision to refer for a CATH

What You Can Do?

We encourage you to explore and address local factors that may be contributing to a lower rate of 'Elective CATHs in Which Significant CAD is Identified' at your hospital as part of your CATH lab's quality assurance program.

- Understand which drivers affect your program, referrals, and patient population
- Connect with high performing programs to inquire about their processes and initiatives in place
- Consider reviewing your results by different stratifications (i.e by referring physician, by CATHing physicians, or by external vs. self-referrals)
- Consider conducting selective chart reviews to better understand profiles of patients who proceed with CATH but are found to have normal coronary anatomy.

References

- ¹Tavakol M, Ashraf S, Brenner SJ. Risks and complications of coronary angiography: a comprehensive review. Glob J Health Sci. 2012 Jan 01;4(1):65-93.
²Manda YR, Baradhi KM. Cardiac Catheterizations, Risks and Complications. StatPearls [Internet]. Nov 13, 2018