

# Elective shoulder replacement surgery and perioperative management in Canada

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## Disclosures

**All authors** certify that they have **no commercial associations** (eg, consultancies, stock ownership, equity interest, patent/licensing arrangements, etc) that might pose a conflict of interest in connection with the submitted manuscript.



# Background

- Elective shoulder replacement (SR) surgery has advanced over the recent decades
- Advancements were not only seen for the implanted prostheses but also in the perioperative management.
- The aim of this study is to identify the current perioperative management for elective anatomic (aSR) and reverse shoulder replacement (rSR) in Canada.



# Methods

- Canadian Shoulder and Elbow Society (CSES) Orthopaedic Association
  - 100 active shoulder-specialised orthopaedic surgeons
- Anonymous web-based survey in August 2022
  - 40 questions
- Ethics approval from the local ethics committee
- **Aim: Identify current pre-, intra- and postoperative measures used in elective SR**



## Results – Basic Data

- 32 of 100 (32%) CSES fellowship-trained orthopaedic surgeons completed survey
- Majority 40-60 years old (72%) & male (88%)
- All (100%) completed fellowship training
- Majority (69%) 10+ years of work experience
- Arthroplasties per year:
  - N=0-20 – 10%
  - N=20-50 – 36%
  - N=50-100 – 33%
  - N=100-200 – 21%



## Results – Pre-operative

<b>Q8 What additional routine preoperative imaging to x-rays do you obtain for an elective shoulder replacement?</b>		
	n	%
Ultrasound	2	5%
<b>CT scan</b>	<b>27</b>	<b>71%</b>
MRI scan	4	11%
Other	5	13%

<b>Q9 How do you routinely ascertain rotator cuff pathology in respect of performing an anatomic or reverse shoulder replacement?</b>		
	n	%
<b>Physical examination</b>	<b>9</b>	<b>27%</b>
Ultrasound	1	3%
X-Ray	7	21%
CT	3	9%
MRI	4	12%
Intraoperative decision	6	18%
Other	3	9%

<b>Q10. Do you use a CT planning software prior surgery?</b>		
	n	%
No	6	18%
<b>Yes, routinely</b>	<b>17</b>	<b>52%</b>
Yes, difficult glenoids	10	30%
Yes, revision cases	0	0%



# Results – Intra-operative

- **Antibiotics use (97% cefazolin)**
  - 34% preoperative single-shot
  - 59% preoperatively up to post x24h
- **Tranexamic acid (TXA) use**
  - 4% No
  - 56% routinely
  - 31% occasional
- **Subscapularis management approach**
  - 47% tenotomy
  - 44% peel-off
  - 9 % lesser tubercle osteotomy
- **Subscapularis management closure aSR**
  - 47% Tendon end-to-end refixation
  - 44% Transosseus refixation
  - 9% Anchor + suture refixation
- **Subscapularis management closure rSR**
  - 22% Tendon end-to-end refixation
  - 47% Transosseus refixation
  - 13% Anchor + suture refixation
  - 16% No refixation



## Results – Post-operative

Sling use with	aSR	rSR
Yes, regular sling	91%	84%
Yes, abduction sling	9%	10%
Yes, for comfort, but may remove	0%	6%
Duration of sling use	aSR	rSR
up to 2 W	15%	20%
up to 4 W	29%	26%
up to 6 W	56%	54%
No longer than 6 W		

When do you discharge your patients?	What are the reasons for discharge on next day?	
44% same day of surgery	17% Hospital resources	19% Pt. travel distance
56% next day	21% Culture	8% pain control & Abx
	10% Anesthesia support	13% other logistics
	13% Physio support	0% Billing system





# Results – Follow-up

<b>What do you prescribe postoperatively to improve range of motion (ROM)? (multiple answers possible)</b>	
Nothing	0%
Physiotherapy	89%
Continuous passive motion (CPM) devices	3%
Aqua - exercise after wound healing	6%
Other (individual program)	3%
<b>Is your postop rehabilitation same following reverse versus anatomic total shoulder replacement? (Select one)</b>	
Yes, same	47%
No, different	53%
<b>How long do you follow up your patients post shoulder replacement?</b>	
Up to 3 months	9%
Up to the first year	31%
Up to two years	16%
Continuous yearly surveillance	44%



# Conclusions

- The outcomes represent the current perioperative practice for elective SRs in Canada.
- Results demonstrate a continuous advancement in perioperative management such as the use of perioperative CT scans and pre-operative planning software for routine cases.
- Further progresses are seen among the decreased sling time use or in the increased numbers of same day surgeries.

