What is the current consensus among orthopaedic surgeons in South Africa regarding robotic-assisted surgery in total joint arthroplasty?

Appendix A

Demographic data

Which province do you practise in?

- ☐ Southern Gauteng
- ☐ Northern Gauteng
- ☐ Limpopo
- ☐ Mpumalanga
- ☐ North-West
- ☐ Eastern Cape
- ☐ Western Cape
- ☐ KwaZulu-Natal
- ☐ Free State
- ☐ Northern Cape

How many years have you been in practice?

- ☐ 0–5 years
- ☐ 6–10 years
- ☐ 11–15 years
- ☐ > 15 years

Sex

- ☐ Male
- ☐ Female

Have you completed an arthroplasty or knee or hip surgery fellowship?

- ☐ Yes, a national fellowship
- ☐ Yes, an international fellowship
- ☐ Yes, an international and national fellowship
- ☐ No

Questions

1. The majority of surgeons use robotic-assisted surgery in TJA for marketing purposes.

- ☐ Agree
- ☐ Neutral
- ☐ Disagree

2. Do you use robotic-assisted surgery technology in your practice for total joint procedures?

- ☐ Yes, total hip arthroplasty only
- ☐ Yes, total knee arthroplasty only
- ☐ Yes, both total hip and total knee arthroplasty
- ☐ No

If 'Yes' to question 2, then the following should pop up to be answered:

Yes. 2.1 The main reason I use robotic-assisted surgery in total joint arthroplasty (TJA) is:

- ☐ Superior long-term outcomes
- ☐ Marketing/administrative pressure
- ☐ Patient satisfaction
- ☐ Higher precision and reproducibility in procedures
- ☐ Pressure to maintain appearance among peers/staff

Yes 2.2 I was hesitant to use robotic-assisted surgery in my practice for TJA because of:

- ☐ Loss of autonomy and control over procedure
- ☐ Learning curve
- ☐ Radiation exposure to patient
- ☐ Risk of complications
- ☐ Cost
- ☐ Lack of data demonstrating superior outcomes
- ☐ I had no hesitation adopting robot-arm assistance into my practice

Yes 2.3 What is the percentage of your current annual total joint practice that utilised robotic-assisted surgery in TJA?

- ☐ 0–20%
- ☐ 20–40%
- ☐ 40–60%
- ☐ 60–80%
- ☐ 80–100%

Yes 2.4 What has been the greatest annual percentage (past or present) of your practice that has utilised robotic-assisted surgery for TJA?

- ☐ 0–20%
- ☐ 20–40%
- ☐ 40–60%
- ☐ 60–80%
- ☐ 80–100%

If 'No' to question 2 then:

No 2.1 What is the primary limiting factor for you not to use robotic-assisted surgery?

- ☐ Loss of autonomy and control over procedure
- ☐ Learning curve
- ☐ Radiation exposure to patient
- ☐ Risk of complications
- ☐ Cost
- ☐ Lack of data demonstrating superior outcomes

No 2.2 I am considering using robotic-assisted surgery in TJA because of:

- ☐ Superior long-term outcomes
- ☐ Marketing
- ☐ Administrative pressure
- ☐ Patient satisfaction
- ☐ Higher precision and reproducibility in procedures
- ☐ Pressure to maintain appearance among peers/staff
- ☐ I am not considering using robotic-arm assistance

3. Robotic-assisted surgery should be part of your training:

- ☐ Yes, in residency
- ☐ Yes, in fellowship
- ☐ No, courses provide adequate training
- ☐ No, robotic-assisted surgery should not be part of your total joint practice

4. How many total joint cases do you think it takes to become competent using robotic-assisted surgery in TJA?

- ☐ 0–20
- ☐ 20–40
- ☐ 40–70
- ☐ 70–100
- ☐ 100–200
- ☐ > 200

5. Robotic-assisted surgery leads to superior long-term functional outcomes compared to conventional methods in TJA:

- ☐ Agree
- ☐ Neutral
- ☐ Disagree

6. Robotic-assisted surgery leads to fewer complications compared to conventional methods in TJA:

- ☐ Agree
- ☐ Neutral
- ☐ Disagree

7. Robotic-assisted surgery leads to fewer revisions compared to conventional methods in TJA:

- ☐ Agree
- ☐ Neutral
- ☐ Disagree

8. When it comes to new technology, what do you consider yourself?

- ☐ Enthusiast – I'll try anything new if it has a possibility of being better
- ☐ Visionary – I'm willing to test it out if there are a couple of good case series
- ☐ Early majority – I'll use it if enough people I trust use it
- ☐ Sceptic – Give me well-designed prospective randomised controlled trials before I consider it
- ☐ Traditionalist – It's a fad

9. When were you first exposed to the robotic-assisted TJA technique?

- ☐ Residency
- ☐ Fellowship
- ☐ Formal course after fellowship
- ☐ Orthopaedic congress
- ☐ Trade representative
- ☐ None of the above

10. Robotic-assisted surgery takes more time than conventional methods in TJA:

- ☐ Agree
- ☐ Neutral
- ☐ Disagree

11. Robotic-assisted surgery takes away autonomy from me as a surgeon:

- ☐ Agree
- ☐ Neutral
- ☐ Disagree

12. Those who use robotic-assisted surgery have to modify the preoperative plan:

- ☐ Never
- ☐ Rarely
- ☐ Sometimes
- ☐ Often

13. Are you a consultant or do you have any financial interests in robotic-assisted surgery systems?

- ☐ Yes
- ☐ No

14. Would you support the formation of a Robotic-assisted Orthopaedic Surgery Special Interest group?

- ☐ Yes
- ☐ No

15. If yes, you believe that such a Robotic-assisted Orthopaedic Surgery Special Interest group should be a:

- ☐ Standalone society
- ☐ Special-interest group under the banner of the South African Arthroplasty Society
- ☐ Special-interest group under the banner of the South African Knee Society
- ☐ Other