Pain after TKR. Who gets it and why? Role of psychological factors. Can we predict or prevent?

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Introduction

Successful Joint Replacement

• Elimination of chronic symptoms
• Restoration of the ability to do activities important to the patient
• Implants’ survivorship
• Meets patient’s expectations

Why Many Patients Not Fully Satisfied? ¹

• Post-operative pain
• Failure of the surgeon to manage the patients’ expectations
• Patients’ previous experience (relative or friend undergoing surgery)
• Background medical knowledge
• Demanding or prolonged rehabilitation
• Less than ideal long-term function
• Do not meet activity level expectations
• Difficulties to seeing the surgeon post-op

Why patients have pain after TKR

Articular causes (Infection - Loosening / Instability - Component Malposition-Patello-femoral problems- Fracture- Soft tissue impingement – Other) and Non Articular causes (Spine – Hip - Vascular disease - Complex regional pain syndrome – Psychogenic).

Factors That Impact Expectations Before TKA - Who get the problem ²

• Preoperative health status
• Demographic factors
• Co-morbidities
• Pain situation
• Disability
• Prior experience with total joint surgery
• Living Situation
• Unacceptability of a prolonged waiting list
• Level of education
• Psychosocial state

Robertsson O, et al.³ mentioned that patients which operated on for a long-standing disease more often being satisfied than those with a short disease-duration. In addition, no difference in proportions of satisfied patients, whether they had primarily been operated on with TKA or a UKA.

Stroh et al.⁴ found that while advancing age is associated with poorer function and activity levels following TJR higher satisfaction with activity levels have been
reported in those older than 70 years when compared to their younger counterparts. Females generally present with worse self-reported pain and functional impairment compared to males at the time hip and knee replacement. Women generally demonstrate greater improvements in pain and function scores after surgery than men.5

**The role of psychological factors**

- Pre-operative psychological distress is associated with excessive analgesic intake and higher rates of hospital readmission and long term mortality.5

- Pre-operative psychological distress is associated with poorer pain control and worst function 1 year after total joint replacement.7

- Pre-existing depression has been shown to predict greater pain and poorer function in patients undergoing TKR at 1 year and it has also been demonstrated that worse outcomes persist at 5 years.8

- Pre-operative pain catastrophising is a predictor of worse post-surgical pain following TKR in the short (6 weeks and 6 months) term, but does not correlate with function.9

- Patients with greater self-efficacy and more optimism are associate with better pain control.10

- A pre-admission diagnosis of depression is associate with being less satisfied with pain relief.11

**Can we predict or prevent?**12

- Correct patient selection • Preoperative check for comorbidities • Preoperative education - setting of appropriate expectations • Pre-arthroplasty rehabilitation • Multi-modal pain strategy • Improving the accuracy of the surgical procedure • Appropriate Implants designs • Avoiding preventable complications • Postoperative physical therapy • Early recognition of depression signs

Signs of depression or ‘catastrophising’ should be elicited - An appropriate psychological counseling is crucial - Routine hospital screening for depression may identify patients at high risk for unmanaged pain. Improved communication between surgeons and mental health providers.13-15

**Conclusions**

**The Reality of Patients’ Expectations is Multifactorial**
• Expectations - Alignment - Patient / Family / Surgeon • Education - Patient / Family
• Medical Optimization - Proper Pre-op Clearance • Anesthesia Team - Positive / Enthusiastic • Pain Management - Entire Perioperative Period • Efficient Surgery • Physical Therapy - Aggressive Coach

References