Bone & Joint Open

Supplementary Material

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Table i. Characteristics of the reviews.

Study	Type of review	Databases searched	Date range of database search	Publication date range of studies	Number of studies and types	Tool used to appraise the primary studies and the rating of their quality
Barber-Westin and Noyes	Systematic review	Pubmed	2005 to 2015	2005 to 2015	19 studies	MINORS criteria
Jassim et al	Systematic review	Medline, Embase, and Sportdiscus	Not reported	Not reported	42 studies, 12 TKR, 3 UKA, and 2 both UKA/TKA	None reported
Oljaca et al	Systematic review	Medline	Not reported	1983 to 2016	19	Not reported
Papaliodis et al	Systematic review	Medline	Not reported	1993 to 2009	3	Not reported
Vogel et al	Systematic review	Medline, Ovid, Cochrane library	1980 to 2010	1996 to 2010	44 in total, 15 for TKA alone, 6 for both TKA and THA	None reported
Waldstein et al	Systematic review	Embase, Medline, ISI Web of science	Not reported	Not reported	17 RCT, quasi-rTCT, controlled clinical trials	MINORS criteria
Witjes et al	Systematic review and meta-analysis	Medline, Embase, Sportdiscus	Until Jan 5, 2015	1997 to 2014	18 studies, all observational, 13 cross sectional, three prospective, 2 retrospective	QUIPS

MINORS, methodological index for non-randomized studies; RCT, randomized controlled trial; THA, total hip arthroplasty; TKA, total knee arthroplasty; UKA, unicompartmental knee arthroplasty.

Table ii. Characteristics of the reviews.

Study	Objectives of the review	Patient details	Setting and context
Barber-Westin and Noyes[1]	To determine physical activity and sports after TKA, limitations or symptoms with these activities, and the effect of rehabilitation	5,179 knees. Mean age of 67.5 yrs, 2,556 women and 1,438 men.	Maintaining activity after TKA is a public health issue due to benefits of physical activity and increasing prevalence of TKA
Jassim et al[2]	Whether or not patients are able to return to athletic activity following lower limb joint replacement and to search for evidence if athletic activity post replacement increases complications and reduces implant survival	10,758 participants of all lower limb TJR. Mean age of 61.7 yrs	The relationship between physical activity and osteoarthritis has been established, therefore active individuals will have high expectations to remain active after lower limb arthroplasty
Oljaca et al[3]	Compare expert opinions with evidence-based summaries about the ability to RTS	N = 2,916 to 2,964 THA and TKA	Age of TKA/THA is decreasing and patient expectation is increasing
Papaliodis et al[4]	Review literature of hip, knee, shoulder arthroplasty for surgeon recommendations about golf after surgery	N = 182	Golf is a popular sport with 29 million golfers, many of whom are considering joint arthroplasty
Vogel et al[5]	Determine clinical opinion and recommendations regarding appropriate activity levels after TJR and variables affecting surgery and outcomes	N = 3,420 for TKA alone, 9,528 if you include studies with both TKA and THA	There is no consensus for appropriate intensity of physical activity after TJR or how this affects revision rates
Waldstein et al[6]	Is there improvement of physical activity scores following UKA? What sport disciplines and sport patterns do UKA patients participate in? What are preop and postop participation rates and return rates?	2,972 UKAs in 2,636 patients, age 25 yrs - 92.89% medial compartment UKA	UKAs are being used more frequently in younger populations who have high expectations to return to sport

Witjes et al[7]	Systematically summarize extent in which patients can RTS and be physically active after TKA/UKA and how long it takes	3,261 patients in 13 TKA cohorts. Mean age between 49 and 73 yrs, mean BMI 27 and 34 kg/m^2. UKA – n = 662, age 59 to 72. Minimum one-yr follow-up	Indications for TKA and UKA are expanding to younger populations. Knee OA is a leading cause of disability and knee arthroplasty has been connected with a cardioprotective effect

OA, osteoarthritis; RTS, return to sports; THA, total hip arthroplasty; TJR, total joint replacement; TKA, total knee arthroplasty; UKA, unicompartmental knee arthroplasty.

Table iii. Methodological Quality Scoring.

Study	Is the review question clearly stated?	Were the inclusion criteria appropriate for the review question?	Was the search strategy appropriate?	Were the sources and resources used to search for studies adequate?	Were the criteria for appraising studies appropriate?
Barber-Westin and Noyes[1]	1	1	1	0	0
Jassim et al[2]	1	1	1	1	0
Oljaca et al[3]	1	1	1	0	0
Papaliodis et al[4]	1	0	0	0	0
Vogel et al[5]	0	1	1	0	0
Waldstein et al[6]	1	1	1	1	1
Witjes et al[7]	1	1	1	1	1

Study	Was critical appraisal conducted by two or more reviewers independently?	Were the methods used to combine studies appropriate?	Was the likelihood of publication bias assessed?	Were the recommendations for policy and/or practice supported by the reported data?	Were the specific directives for new research appropriate?	Total
Barber-Westin and Noyes[1]	0	0	0	1	1	5
Jassim et al[2]	1	0	0	0	1	6
Oljaca et al[3]	0	0	0	0	1	4
Papaliodis et al[4]	0	0	0	1	1	3

Vogel et al[5]	0	0	0	1	0	3
Waldstein et al[6]	1	1	0	1	1	9
Witjes et al[7]	1	1	0	1	1	9

References

1. **Barber-Westin SD, Noyes FR**. Aerobic physical fitness and recreational sports participation after total knee arthroplasty. *Sports Health*. 2016;8(6):553–560.

2. **Jassim SS, Douglas SL, Haddad FS**. Athletic activity after lower limb arthroplasty: a systematic review of current evidence. *Bone Joint J*. 2014;96-B(7):923–927.

3. **Oljaca A, Vidakovic I, Leithner A, Bergovec M**. Current knowledge in orthopaedic surgery on recommending sport activities after total hip and knee replacement. *Acta Orthop Belg*. 2018;84(4):415–422.

4. **Papaliodis DN, Photopoulos CD, Mehran N, Banffy MB, Tibone JE**. Return to golfing activity after joint arthroplasty. *Am J Sports Med*. 2017;45(1):243–249.

5. **Vogel LA, Carotenuto G, Basti JJ, Levine WN**. Physical activity after total joint arthroplasty. *Sports Health*. 2011;3(5):441–450.

6. **Waldstein W, Kolbitsch P, Koller U, Boettner F, Windhager R**. Sport and physical activity following unicompartmental knee arthroplasty: a systematic review. *Knee Surg Sports Traumatol Arthrosc*. 2017;25(3):717–728.

7. **Witjes S, Gouttebarge V, Kuijer P, van Geenen RCI, Poolman RW, Kerkhoffs G**. Return to sports and physical activity after total and unicondylar knee arthroplasty: a systematic review and meta-analysis. *Sports Med*. 2016;46(2):269–292.