

Research question	P (population)	I (intervention or factor)	C (comparator)	O (outcome)	T (trials)	order	TOPIC
Is it safe to inject glucocorticoid (GC), hyaluronic acid (HA), saline, or others before a total joint replacement (TJR)?	TJR indications*	IAT**	No IAT	TJR outcomes****	RCT > LOS prospective > LOS retrospective (>10 cases)	1	IA therapies and TJR
How long do published studies of IAT wait after the injection to TJR? Does time affect TJR outcome?	TJR indications* AND IAT**	Time to TJR after IAT**	-	TJR outcomes****	RCT > LOS prospective > LOS retrospective (>10 cases)	2	
Is it safe to inject GC, HA, saline, others in a joint with a prosthesis?	IAT**	Prosthesis (TJR***)	-	TJR outcomes****	LOS prospective > LOS retrospective (>10 cases)	3	
Does administration of IA ther when there is cellulitis increase the rate of septic arthritis?	IAT**	Cellulitis	-	Rate of septic arthritis	RCT > LOS prospective > LOS retrospective (>10 cases)	4	Safety
Is any injectable compound safe to use IA in septic arthritis?	IAT**	Septic arthritis	-	Safety outcomes*****	LOS prospective > LOS retrospective (>10 cases)	5	
Is it safe to inject a joint in a patient with fever? / Does the rate of infections increase in patients with fever?	IAT**	Fever	-	AE, rate of septic arthritis, etc	LOS prospective > LOS retrospective (>10 cases)	6	
Is it safe to use IA-GC in pts with DM? / Does the rate of diabetic complications increase with GC injections in diabetic patients?	IAT (GC)	DM	-	Rate of acute events DM-related, changes in dosage of insulin, etc.	LOS prospective > LOS retrospective (>10 cases)	7	
Does the rate of infections increase with IA GC in patients with diabetes?	IAT (GC)	DM	-	Rate of infections	LOS prospective > LOS retrospective (>10 cases)	8	
Does the rate of CV complications increase with IA injections in hypertensive patients, obese, or those with other CV risks?	IAT**	hypertension, or obesity or CV risk	-	Rate of CV complications	LOS prospective > LOS retrospective (>10 cases)	9	
Is a skin integrity breach associated to complications (infections, fistulae) in IA injections?	IAT**	Skin integrity breach (infections, fistulae)	-	Rate of infections	LOS prospective > LOS retrospective (>10 cases)	11	
What's the rate of infection with IA injections? Is this rate different than that of venepuncture?	IAT** / Venepuncture	-	-	Rate of infections	LOS prospective > LOS retrospective (>10 cases)	16	
What measures decrease the rate of infection? How much? Are gloves always necessary? Does an operating theatre decrease significantly the rate of infection?	IAT**	Gloves, operating theatre	No gloves, no operating theatre	Rate of infections	RCT > LOS prospective > LOS retrospective (>10 cases)	17	

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Does the rate of bleeding complications increase with IA injections if the patient has a haematological disease that impairs clotting?	IAT**	Clotting-impairing-haematological disease	-	Rate of bleeding complications	LOS prospective > LOS retrospective (>10 cases)	10	Bleeding problems
Are people treated with classic or new anticoagulants (ACO) at higher bleeding risk during and after an IA injection? What's the magnitude of the risk?	IAT**	ACO	-	Rate of bleeding	LOS prospective > LOS retrospective (>10 cases)	12	
Are people with ACO (any) at higher risk of thrombotic events if withdrawn for an IA injection? What's the magnitude of the risk?	IAT**	ACO withdrawal	ACO continuation	Rate of bleeding, rate of thrombotic events, other AEs	RCT > LOS prospective > LOS retrospective (>10 cases)	13	
What's the effect and safety of IA therapies in joints with a Kellgren-Lawrence score of IV?	IAT**	K-L 4	-	Efficacy: Pain reduction	LOS prospective > LOS retrospective (>10 cases)	14	IA therapies in damaged joints
Does repeating the number of IA articular injections of GC, HA, saline has any effect on long term outcome or safety (infections, structural damage)?	IAT**	# of injections	-	Efficacy: Pain reduction Long-term safety: MRI changes	LOS prospective > LOS retrospective (>10 cases)	15	Repetitive IA ther
Does the addition of IA anaesthesia reduce the discomfort of the procedure? Does it prolong the effect on pain? How long?	IAT**	IA anaesthetics	PBO	Efficacy: Pain reduction Long-term safety: MRI changes	RCT > LOS prospective > LOS retrospective (>10 cases)	18	Anaesthesia
Are IA anaesthetics safe on the cartilage?	IAT**	IA anaesthetics	PBO	Changes on cartilage (MRI?, in vitro?)	RCT > LOS prospective > LOS retrospective (>10 cases)	19	
Is topical anaesthesia as efficacious in reducing discomfort as IA anaesthesia?	IAT**	Topical anaesthetics	IA anaesthetics	Efficacy: Discomfort / vasovagal effect	RCT > LOS prospective > LOS retrospective (>10 cases)	20	
Is IA lidocaine antiseptic?	IAT**	IA lidocaine	Other IA anaesthetics	Rate of infection, Changes in joint microbiology	RCT > LOS prospective > LOS retrospective (>10 cases)	21	
Is efficacy modified whether the product is accurately placed in the joint when injecting GC, HA, or saline?	IAT**	imaging-guided	non-imaging-guided	Efficacy: Pain reduction	RCT > LOS prospective > LOS retrospective (>10 cases)	22	Correct placement
Is safety modified whether the product is accurately placed in the joint when injecting GC, HA, or saline?	IAT**	imaging-guided	non-imaging-guided	Safety: Serious AE	RCT > LOS prospective > LOS	23	

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					retrospective (>10 cases)		
Can ultrasound rule out septae and be used to check the distribution of the isotope in radiosynovectomy?	IAT** radioisotopes	US	Fluoroscopy	% Appropriate placement of needle	RCT > LOS prospective > LOS retrospective (>10 cases)	24	
Is synovial fluid aspiration enough to ensure you're in the joint?	IAT**	Aspiration	-	% Appropriate placement of needle (assessed by US)	Cross-sectional	25	
Does correct placement of IAT in the joint depend on the approach?	IAT**	Approach		% Appropriate placement of needle (assessed by US)	Cross-sectional	26	
Is correct placement of IAT in the joint related to expertise?	IAT**	Expertise	-	% Appropriate placement of needle (assessed by US)	Cross-sectional	27	
What's the effect of synovial fluid aspiration, whether is complete or partial in chronic inflamed joints? Does it have an effect on balance, pain, falls?	Knee OA	Partial arthrocentesis	Complete arthrocentesis	Proprioception, pain, falls	RCT > LOS prospective > LOS retrospective (>10 cases)	28	Aspiration
Does rest affect the outcome in IA injections of radioisotopes?	IA radioisotopes	Rest (and length)	No rest	Efficacy: Pain reduction Safety: MRI changes	RCT > LOS prospective > LOS retrospective (>10 cases)	29	Care after IA procedure
Is in-patient rest needed after IA injections?	IAT**	In-patient rest	Out-patient rest or no rest	Efficacy: Pain reduction	RCT > LOS prospective > LOS retrospective (>10 cases)	30	
Are support bondage necessary to prolong the effect of IAT?	IAT**	Bandages, casts, external support, kinesiotaping	No support bondage	Efficacy: Pain reduction	RCT > LOS prospective > LOS retrospective (>10 cases)	31	
Is support bondage needed in non-weight-bearing joints after an IAT?	IAT** in hands, wrist, elbow, shoulder	Bandages, casts, external support, kinesiotaping	No support bondage	Efficacy: Pain reduction	RCT > LOS prospective > LOS retrospective (>10 cases)	32	