ROBINS-I tool (Stage I): At protocol stage

Specify the review question	Bør patienter anbefales bevægerestriktioner efter total hoftealloplastik operation?
Participants	THA post op
Experimental intervention	Hip precautions/restrictions
Comparator	No restrictions
Outcomes	Hofteluksation, tidlig (Dislocations, early)
List the confounding domains relevant to all or most studies	Ledhovedstørrelse i studier med kohorte i tidsperioder før/efter praksisændring fra <32mm ledhoveder til >32mm ledhoveder.
List co-interventions that could be different between intervention groups and that could impact on outcomes	Operation procedure (e.g. posterior, lateral, anterior)

ROBINS-I tool (Stage II): For each study

	Allen2018	**Lightfoot2020**	**Mikkelsen2014**	**vanderWeegen2019**
Design	Retrospective cohort, before/after	Prospective cohort, before/after	non-randomized controlled	Prospective cohort + control group of consecutive pts
Participants	THA post op	THA post op	THA post op	THA post op
Experimental intervention	Hip precautions/restrictions	Hip precautions/restrictions	Hip precautions/restrictions	Hip precautions/restrictions
Comparator	No restrictions	No restrictions	No restrictions	No restrictions
Confounders	Ledhovedstørrelse	Ledhovedstørrelse	No confounders	Ledhovedstørrelse
Co-interventions				
Is your aim for this study…?				
Specify which outcome is being assessed for risk of bias				
Specify the numerical result being assessed				

ROBINS-I tool (Stage II): For each study

Specify target trial

							Preliminary considerations of confounders				Additional confounding domains				Preliminary considerations of confounders			Additional co-interventions		
Reference	**Design**	**Participants**	**Experimental intervention**	**Comparator**	**Is your aim for this study...?**	**Specify which outcome is being assessed for risk of bias**	**Specify the numerical result being assessed**	**Confounding domain**	**Measured variables**	**Is there evidence for this variable was unnecessary?**	**Is the confounding domain measure validly and reliably by this variable?**	**OPTIONAL: Is failure to adjust for this variable (alone) expected to favour the experimental intervention or the comparator?**	**Confounding domain**	**Measured variables**	**Is there evidence for this variable was unnecessary?**	**Is the confounding domain measure validly and reliably by this variable?**	**OPTIONAL: Is failure to adjust for this variable (alone) expected to favour the experimental intervention or the comparator?**	**Co-interventions**	**Is there evidence that controlling for this co-intervention was unnecessary?**	**Is the presence of this co-intervention likely to favour outcomes in the experimental intervention or thecomparator**	**Co-interventions**	**Is there evidence that controlling for this co-intervention was unnecessary?**	**Is the presence of this co-intervention likely to favour outcomes in the experimental intervention or thecomparator**
Allen2018	Retrosoective cohort, before/after	673/2551	Hip precautions/restrictions	Minimal postoperative restrictions	To evaluate the risk of early dislocations after removal of early hip resictions after THA	Hoftelluksation, tidlig (Dislocations, early)																	
Lightfoot2020	Prospective cohort, before/after	119/118	Hip precautions/restrictions	Minimal postoperative restrictions	To evaluate the risk of early dislocations after removal of early hip resictions after THA	Hoftelluksation, tidlig (Dislocations, early)																	
Mikkelsen2014	non-randomized controlled	219/146	Hip precautions/restrictions	Minimal postoperative restrictions	To evaluate the risk of early dislocations after removal of early hip resictions after THA	Hoftelluksation, tidlig (Dislocations, early)																	
vanderWeegen2019	Prospective cohort + control group of consecutive pts	1049/1102	Hip precautions/restrictions	Minimal postoperative restrictions	To evaluate the risk of early dislocations after removal of early hip resictions after THA	Hoftelluksation, tidlig (Dislocations, early)																	

1. Bias due to confounding

Study	Outcome	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	Risk of bias judgement	Comment and supporting quote	additional comment	Comment to ROBINS-I
Allen2018	All outcomes	N	-	-	-	-	-	-	-	Low	Majority of patients operated with >32mm (92.28 % og 97.33 %.)	Hip luxations reported for patients operated with posterior approach (desired)	
Lightfoot2020	All outcomes	PN	-	-	-	-	-	-	-	Moderate	No information about head size	Hip luxations reported for patients operated with posterior approach (desired)	
Mikkelsen2014	All outcomes	N	-	-	-	-	-	-	-	Low	No confounding suspected. Majority of patients operated with >32mm (95.9 %)	Posterior surgical approach	
vanderWeegen2019	All outcomes	N	-	-	-	-	-	-	-	Low	Hip luxations reported for patients operated with >32mm head size.	Posterior surgical approach	

2. Bias in selection of participants into the study

Study	Outcome	2.1	2.2	2.3	2.4	2.5	Risk of bias judgement	Comment and supporting quote	additional comment	Comment to ROBINS-I
Allen2018	All outcomes	Y	PY	Y	Y	N	Serious	2.1. Excluding due to post intervention exclusion of participants due to no precautions in 2009-2012 and due to a specific surgeon performing the procedure (argument of reducing bias).	Participants selected retrospectively from registry from two time periods with/without restrictions	2.1 excluding on post intervention factors such as revision surgey, conversion surgey and resurfacing operations. 2.2. Precations might be associated with re-operation.
Lightfoot2020	All outcomes	PN	-	-	Y	-	Low	No reasons to suspect selection bias.	Participants selected retrospectively from registry from two time periods with/without restrictions.	
Mikkelsen2014	All outcomes	N	-	-	PY	-	Low	No reasons to suspect selection bias.	Participants selected prospectively from two time periods with/without restrictions	
vanderWeegen2019	All outcomes	PN	-	-	PY	-	Low	No reasons to suspect selection bias.	Participants in one group selected prospectively and the other retrospectively.	

3. Bias in classification of interventions

Study	Outcome	3.1	3.2	3.3	Risk of bias judgement	Comment and supporting quote	additional comment	Comment to ROBINS-I
Allen2018	All outcomes	PN	Y	N	Low	3.1. No informaton about restrictions		
Lightfoot2020	All outcomes	PN	Y	N	Low			
Mikkelsen2014	All outcomes	Y	Y	N	Low			
vanderWeegen2019	All outcomes	NI	Y	N	Low	3.1. reference to earlier publication		

4. Bias due to departures from intended interventions

Study	Outcome	4.1	4.2	4.3	4.4	4.5	4.6	Risk of bias judgement	Comment and supporting quote	additional comment	Comment to ROBINS-I
Allen2018	All outcomes	NI	NI	-	-	-	-	NI	NI on deviations nor patient adherence to protocol		
Lightfoot2020	All outcomes	NI	-	-	-	-	-	NI	4.1 same reason for dropout between groups	NI on patient adherence to protocol	
Mikkelsen2014	All outcomes	NI	NI	-	-	-	-	NI	NI on deviations nor patient adherence to protocol		
vanderWeegen2019	All outcomes	NI	-	-	-	-	-	NI	NI on deviations nor patient adherence to protocol	NI on deviations nor patient adherence to protocol	

5. Bias due to missind data

Study	Outcome	5.1	5.2	5.3	5.4	5.5	Risk of bias judgement	Comment and supporting quote	additional comment	Comment to ROBINS-I
Allen2018	All outcomes	PN	PN	NI	NI	N	Serious	5.1 exclusion due to missing outcome data		
Lightfoot2020	All outcomes	N	PN	PN	Y	N	Moderate	5.1 unable to contact proportion for missing data differs across groups		
Mikkelsen2014	All outcomes	PN	PN	Y	N	N	Moderate			
vanderWeegen2019	All outcomes	Y	N	N	-	-	low			

6. Bias in measurement of outcomes

Study	Outcome	6.1	6.2	6.3	6.4	Risk of bias judgement	Comment and supporting quote	additional comment	Comment to ROBINS-I
Allen2018	All outcomes	N	Y	Y	PN	Low			
Lightfoot2020	All outcomes	N	Y	Y	PN	Low			
Mikkelsen2014	All outcomes	N	Y	Y	PN	Low			
vanderWeegen2019	All outcomes	N	Y	Y	PN	Low			

7. Bias in selection of the reported result

Study	Outcome	7.1	7.2	7.3	Risk of bias judgement	Comment and supporting quote	additional comment	Comment to ROBINS-I
Allen2018	All outcomes	PN	PN	PN	Moderate	No protocol pre-registered		
Lightfoot2020	All outcomes	PN	PN	PN	Low	No deviations from published protocol.		
Mikkelsen2014	All outcomes	PN	PN	PN	Moderate	No protocol pre-registered		
vanderWeegen2019	All outcomes	PN	PN	PN	Moderate	No protocol pre-registered		