

# ***Minimal Hip Stability Precautions***

ARE EQUIALLY GOOD & SAFE TO CONVENTIONAL HIP PRECAUTIONS AFTER TOTAL HIP REPLACEMENT

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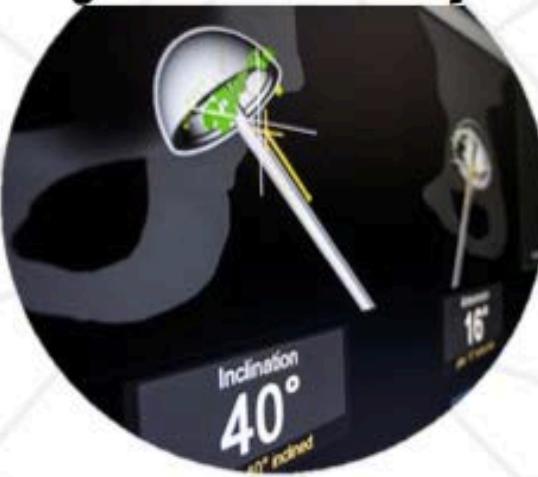
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# *Background of Minimal Hip Precautions*

## ACCURATE COMPONENT POSITIONING INTRA OPERATION



Increasing femoral head diameter  
Increasing head/neck ratio - same neck taper

## LARGE HIP BALL HEAD (36 mm)



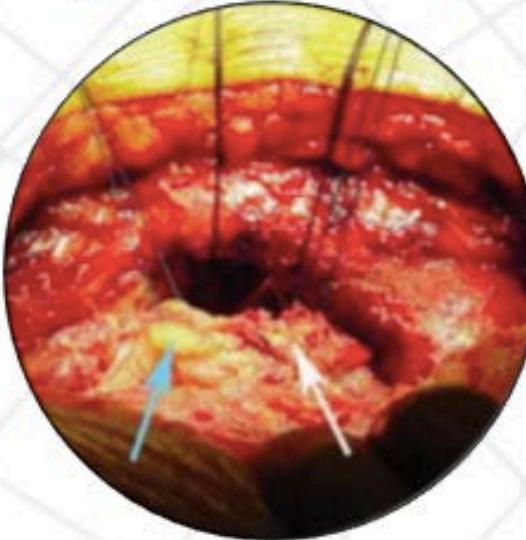
126 degrees



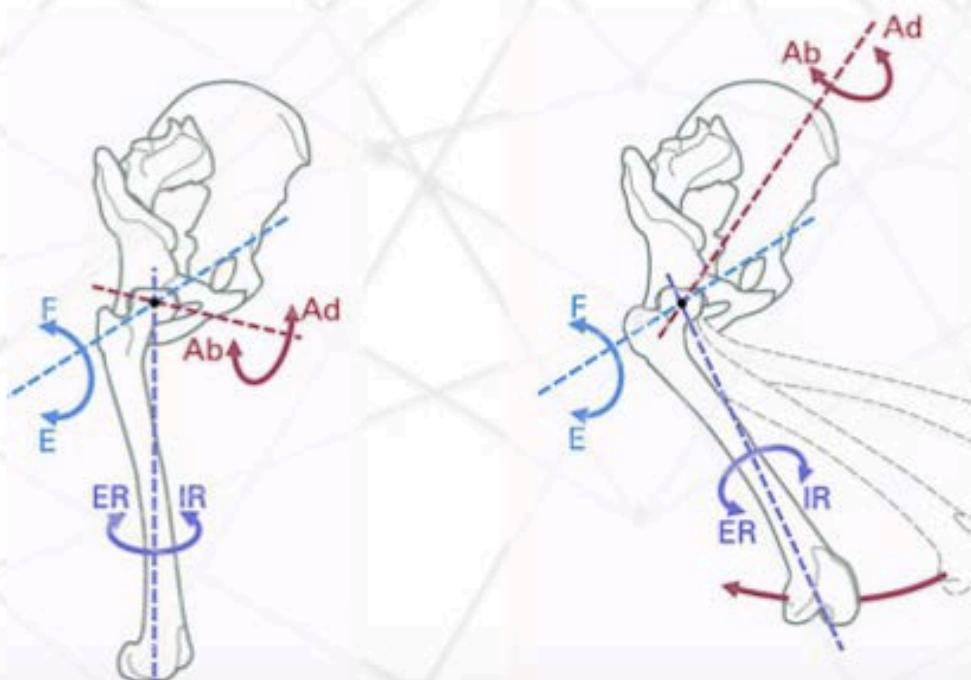
136 degrees

# *Background of Minimal Hip Precautions*

**ENHANCED SOFT  
TISSUE &  
CAPSULAR  
REPAIR**



**METICULOUS  
TESTING OF  
INTRAOP HIP  
STABILITY  
(Flex, Abduct,  
Internal Rotate)**



•••○○3 LTE

8:08 AM

100 %

< Dr Lewis Chan  
online



Morning Edward, can our THR cases lead quality life with LESS restrictions like this? 8:01 AM



Dr. Chan, which side is operated? 😅

8:03 AM ✓✓

Let's try Minimal Hip Precautions on POD3 8:05 AM



大愛仁心 想像無極限 😊



# CONVENTIONAL HIP PRECAUTIONS

# 標準預防脫臼事項



# MINIMAL PRECAUTIONS 術後三天簡約防脫臼事項



彎腰BEND>90拾物



手術腳上 OPX LEG UP



彎腰過90度穿褲 BEND>90



彎腰過90度著襪

# MINIMAL PRECAUTIONS 術後三天簡約防脫臼事項



LIFE LONG PRECAUTION - NO COMBINED MOVEMENT



屈>90,內收,內旋

# *Prospective, Comparative Safety Study*

## **Aim:**

**Minimal precautions (MP) would not increase rate of dislocation nor deteriorate quality of life compared with conventional precautions (CP) protocol**

## **Subjects:**

**Total Hip Replacement Queen Mary Hospital**

**March 2016 – March 2017**

## **Outcomes:**

**Dislocation rate**

**EQ5D-5L: Index Score & Health Perception VAS**

## **Interval:**

**Pre-operation – Interview: EQ5D-5L**

**Post-operation 3 months and 1 year – Phone FU: EQ5D-5L & Dislocation rate**

**Kornuijt A., Das D., Sijbesma T., W. van der Weegen (2016) The rate of dislocation is not increased when minimal precautions are used after total hip arthroplasty using the posterolateral approach. Bone Joint J 98-B:589-594**

# EQ5D-5L Health related QOL Index Score

ranging from 1 (no problem in all domains 11111)  
to -0.281 (extreme problems in all 55555)  
reference to EQ5D-5L value set

## Health Related QOL: Index score

### 5 Domains:

**Mobility**

**Self-care**

**Usual Activities**

**Pain**

**Anxiety/Depression**

### 5 points Likert scale:

**1=No Problem**

**2=Slight Problem**

**3=Moderate Problem**

**4=Severe Problem**

**5=Extreme Problem**

EQ-5D-5L 健康問卷

請在每個標籤下點選此形容符合您現在的健康狀況的一個方格。

**行動能力**

- 我可以正常走動，沒有任何問題
- 我的行動有輕度問題
- 我的行動有中度問題
- 我的行動有嚴重問題
- 我無法行動

**自我照顧**

- 我在洗澡或穿脫衣物方面沒有問題
- 我在洗澡或穿脫衣物方面有輕度問題
- 我在洗澡或穿脫衣物方面有中度問題
- 我在洗澡或穿脫衣物方面有嚴重問題
- 我無法自己洗澡或穿脫衣物

**平常活動 (如家務、做饭、工作、運動或休閒活動)**

- 我能進行平常活動，沒有任何問題
- 我在進行平常活動方面有輕度問題
- 我在進行平常活動方面有中度問題
- 我在進行平常活動方面有嚴重問題
- 我無法進行平常活動

**疼痛/不舒服**

- 我沒有任何疼痛或不舒服
- 我覺得輕度疼痛或不舒服
- 我覺得中度疼痛或不舒服
- 我覺得嚴重疼痛或不舒服
- 我覺得極度疼痛或不舒服

**焦慮/恐慌**

- 我沒有尋求過治療
- 我覺得輕度焦虑或恐慌
- 我覺得中度焦虑或恐慌
- 我覺得嚴重焦虑或恐慌
- 我覺得極度焦虑或恐慌

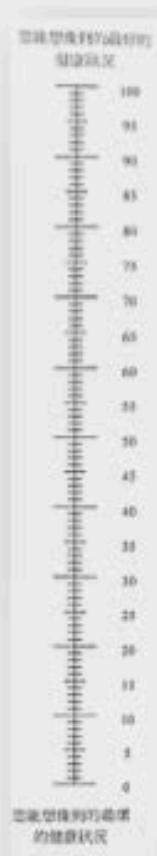
## Health Visual Analog Scale (0-100)

### Self Rating Health Perception

**100 = Extremely Healthy**

to

**0 = Extremely Unhealthy**



## ***Demographics***

<b>Demographics (n=37)</b>	<b>CP (n=20)</b>	<b>MP (n=17)</b>
Age	67.65 (53-92)	62.71 (36-81)
Sex	F 9 M 11	F 11 M 6
Length of Stay	16.10	10.65
Independent Toilet Day	9.80	7.14

	CP (n=20)	MP (n=17)
<i>Operation</i>		
Primary	12	15
Revision	8	2
<i>Provisional Diagnosis</i>		
OA Hip	4	4
AVN	7	8
Revision	8	2
RA	1	0
Dysplasia	0	2
Acetabular protrusion	0	1
<i>Femoral head diameter</i>		
26 mm	1	0
28 mm	2	1
32 mm	4	4
36 mm	13	12

	<b>CP (n=20)</b>	<b>MP (n=17)</b>
<b><i>Indislocate ABDUCTION angle on operation table</i></b>		
20°	1	0
30°	19	17
<b><i>Indislocate FLEXION angle on operation table</i></b>		
90°	18	5
100°	2	1
110°	0	1
120°	0	5
130°	0	5

## *Results*

### **Dislocation Rate**

**1 dislocation reported in Conventional Precaution group**

**Femoral Nerve Palsy upon discharge**

**1 month post d/c slipped & fell in toilet of office**

**Closed Reduction done & no more dislocation reported**

# **Results**

	CP (n=20)	SD	MP (n=17)	SD	P value
<b>EQ5D-5L Index Score (-0.281 – 1)</b>	mean		mean		
Pre-operation	0.67	0.30	0.62	0.33	>.05
<b>Health VAS (0-100)</b>					
Pre-operation	72.25	14.46	66.76	18.45	>.05

**Independent-Samples T test**

**Between CP & MP**

**Index score & Health VAS have no difference**

**$P > .05$**

**MP & CP groups are similar in baseline**

# Results

	CP (n=20)		MP (n=17)		P value
<b>EQ5D-5L Index Score (-0.281 – 1)</b>	mean	SD	mean	SD	
Pre-operation	0.67	0.30	0.62	0.33	>.05
<b>Post operation 12 months</b>	<b>0.83</b>	0.28	<b>0.87</b>	0.15	>.05
<b>Health VAS (0-100)</b>					
Pre-operation	72.25	14.46	66.76	18.45	>.05
<b>Post operation 12 months</b>	<b>77.50</b>	12.41	<b>80.41</b>	14.53	>.05

Independent-Samples T test

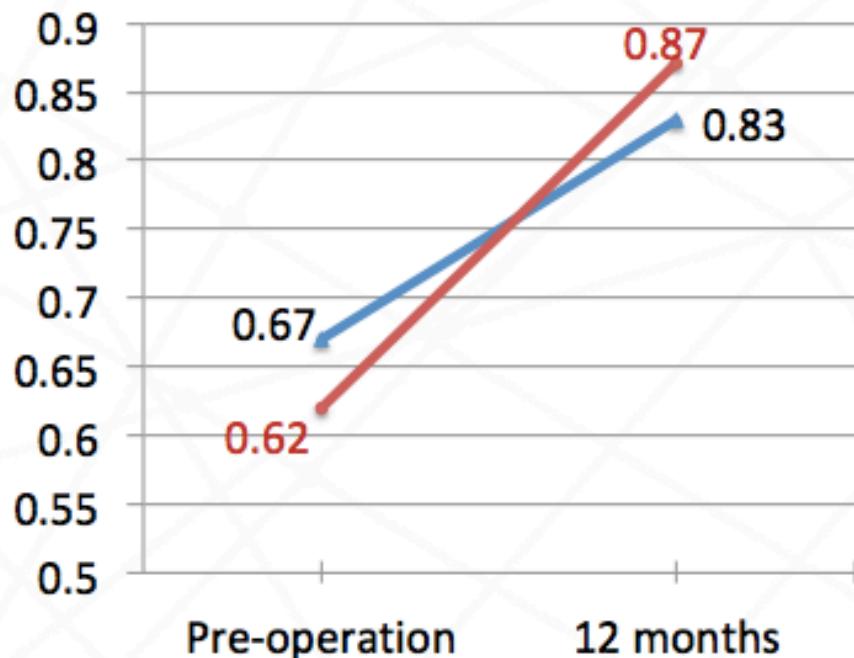
Between CP & MP

Index score & Health VAS have no difference

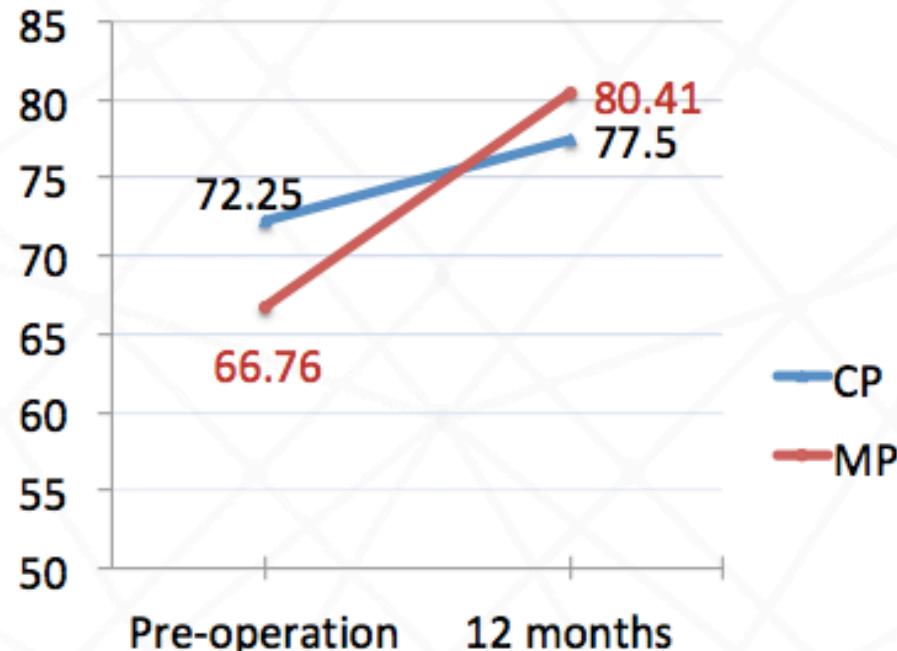
*P >.05*

MP is equally good as CP

### EQ5D-5L Index Score (-0.281 to 1)



### Health VAS (0-100)



#### Paired Samples T test

##### Within CP Pre & Post 12 months

Index Score  $t_{(19)} = -3.24$  sig difference  $p < .04$

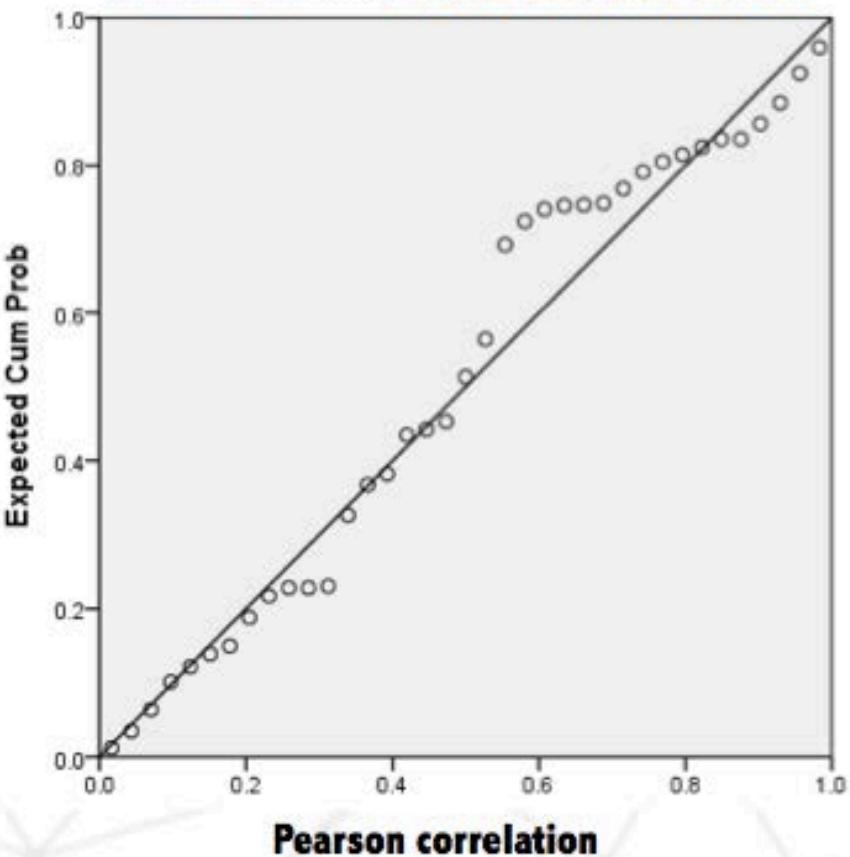
Health VAS  $t_{(19)} = -1.96$  Not sig difference  $p > .05$

##### Within MP Pre & Post 12 months

Index Score  $t_{(16)} = -3.51$  sig difference  $p < .003$

Health VAS  $t_{(16)} = -3.24$  sig difference  $p < .005$

**Scatter Plot: MP 12 months**  
**Health VAS with EQ5D-5L Index score**



CP: cor (Index score, Health VAS) 12 months  $r=.509$  ( $p<.05$ )

MP: cor (Index score, Health VAS) 12 months  $r=.717$  ( $p<.01$ )

## *Conclusion*

- 1. Low dislocation rate with only one with femoral nerve palsy in CP**
- 2. MP proved to be equally good & safe for THR compared with CP as reflected from elevating Index Score & Health VAS**
- 3. MP: Index Score & Health VAS significant difference after 12 mths**



- 4. CP group with only Index score shown difference after 12 months**
- 5. EQ5D-5L is valid tool as Index score & Health VAS are correlated**

## ***Limitation***

- 1. Small subjects number**
- 2. MP **not better than CP** in EQ 5D-5L index score & Health VAS**
- 3. Add other disease specific outcome measure e.g. WOMAC, SF 36**
- 4. Add survey towards clients, nurses, PT, OT, PCA on satisfaction towards MP**
- 5. Clinically need **extra OPD Occupational Therapy service to reinforce & integrate MP in their daily life****

## *Translate Research Result to Enhance Service*

**Service need:** MP clients not “**fully**” utilize minimal restrictions into daily life e.g. dressing trousers, socks

- 1. New out-patient service 體天喜地 2.0**
- 2. Phone: Post operation 3, 6, 12 months (Dislocation, EQ5D5L + Q. Difficulty in Daily living – trousers & socks)**
- 3. ADL training - Dressing Trouser, Socks, Cut toe nails ....**



## *Translate Research Result to Enhance Service*

4. Ba Duan Jin (八段錦) class to **maximize flexibility of soft tissues of replaced joint & relearn pain free postures** they opt in previous days without hip pain





# 擬走痛楚 重拾快樂



HKW CLUSTER OUTSTANDING TEAM 2018