Conversion of hip arthrodesis to THR

Mr Dan Dowen
ST8

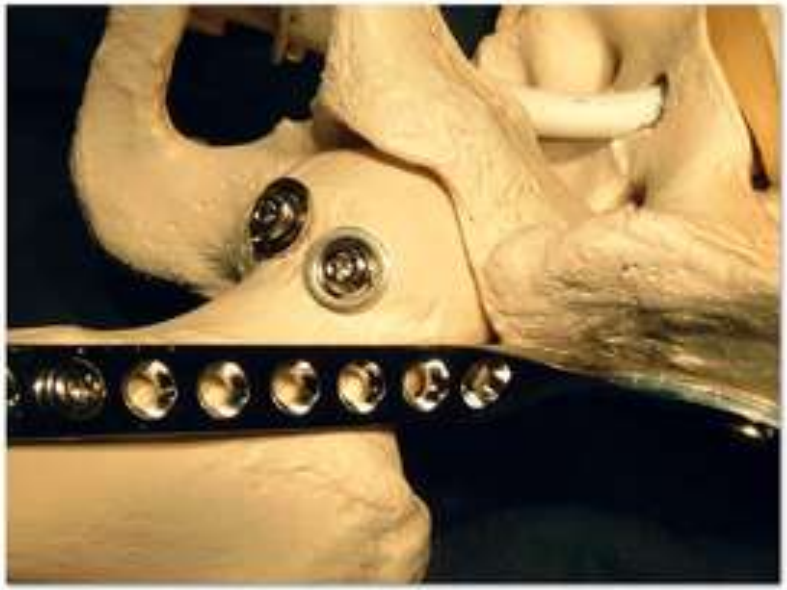
Introduction

- Background
- Pre-op assessment
- Surgical technique
- Outcomes
- Conclusions

Background

- Commonest techniques involve extra-articular plate fixation

A



B

Reason for conversion

1) Back pain

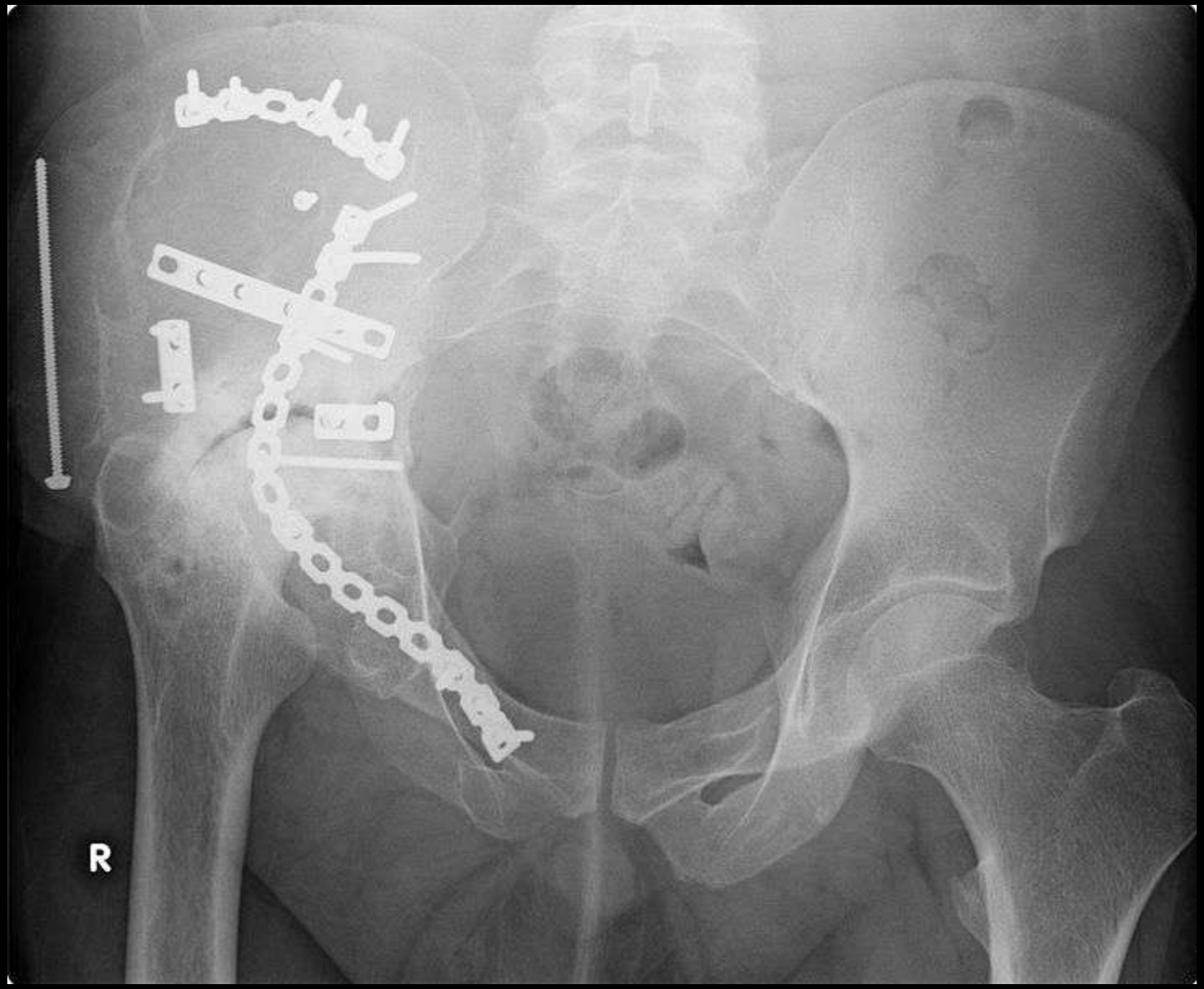
2) Ipsilateral knee pain

3) Contralateral hip pain

Pre-op assessment

- History
  - Age, occupation
  - REASON FOR FUSION
  - Spontaneous or Surgical Arthrodesis?
  - Child Vs adult?
  - If infection, must exclude ongoing

- How was it fused?
  - Equipment needed to extract metalwork


R

Pre-op assessment

- Examination
  - ? Sound fusion
  - Position of fusion
  - LLD (can be difficult)
    - Clinical & radiological (CT scanogram)
    - < 3cm full correction
  - Integrity & function of abductors
    - Clinically
    - EMG, USS, CT

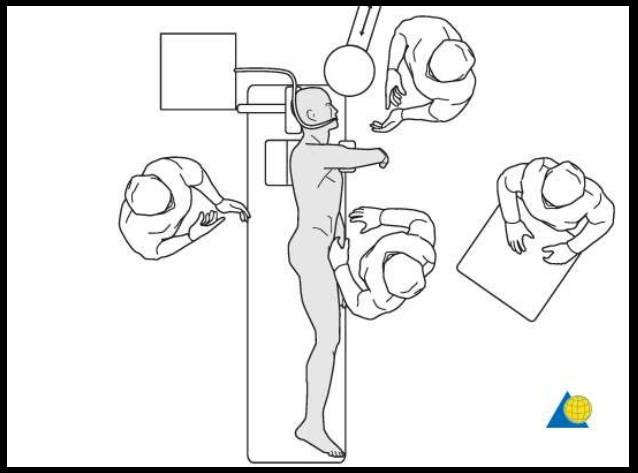
Surgical technique

- Aims=
  - Flexion 20-30°
  - Adduction 5°
  - External rotation 5-10°
  - Limb-length discrepancy <2 cm

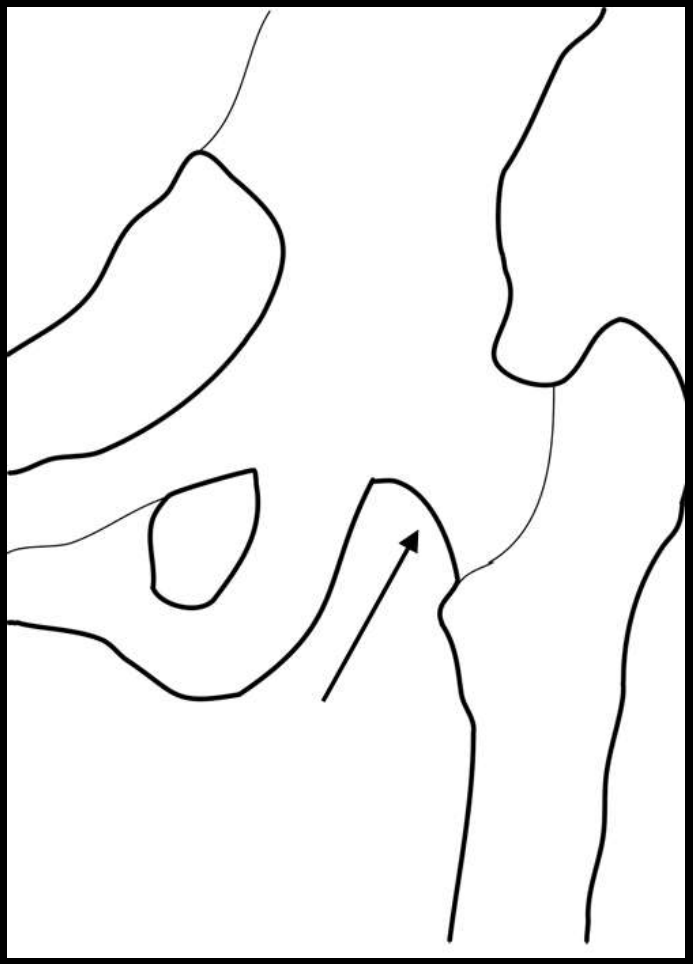
- ALL essential for a successful long-term result

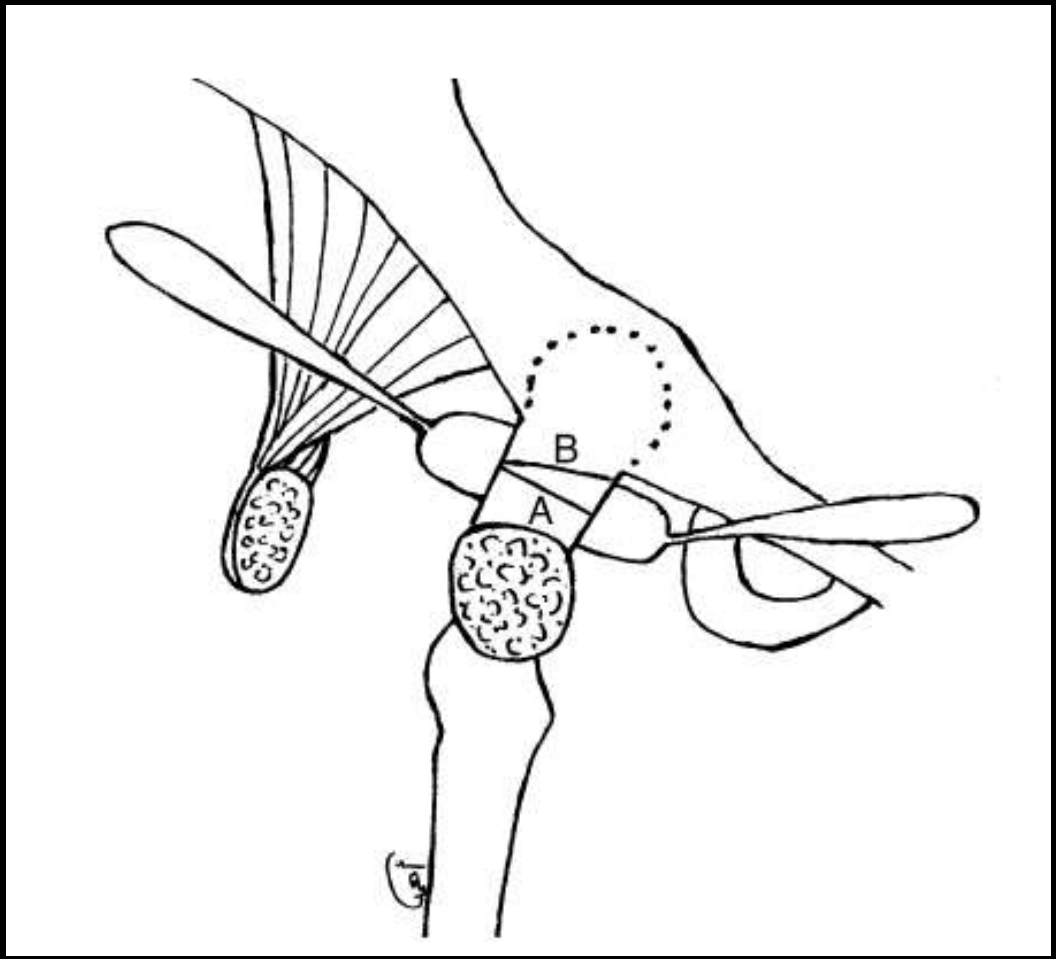
Surgical technique

- Theatre set up
- Lateral posn.
- Consider intra-op nerve monitoring
- Mark old scars
- ? Image intensifier
- Expose pubo-femoral arch



Pubo-femoral arch
Intra-operative guide




B
A

Surgical technique

- Releases / tenotomies
  - Adductor, Iliopsoas, G max
- Perform osteotomy
  - Consider trochanteric slide
- Note position of femoral head before reaming
- Xray once start reaming to check posn


M
RLNX009327048
PBO
Right Hip Theatre II Pinning
RLN14-600478
57
24
108 kVp
2,92 mA
1

Surgical technique

- Bone quality will NOT be normal
- Consider screw augmentation
- High risk of dislocation
  - ? Constrained liner

Surgical technique

- Once reduced check sciatic nerve tension
- If trochanteric osteotomy performed ➡ Cable
- If no trochanter attach abductors to femur
- If no abductors can use fascia lata
- If pre-op HO consider prophylaxis

Outcomes of conversion

- Infrequently performed
- Poor follow up
- Small series
- Recovery longer than primary or revision

Outcomes of conversion

- Improvement up to 3 yrs
- 1/3rd = complete relief
- Back pain resolves 8/10
- Knee pain doesn’t resolve 2/10

Complications

Complications of Conversion THA.

Study	Year	Patients (Hips)	Follow-Up (Mean, Yrs)	Complications	Complication Rate	Revision Rates (At Final Follow-Up)
Strathy and Fitzgerald [20]	1988	74 (80)	10.4	22 complications: 9 deep infection, 11 loosening, 1 dislocation	Surgical group 48.3% Spontaneous group 5%	Surgical group 15% Spontaneous group 6.6%
Kilgus et al [21]	1990	38 (41)	7	19 complications: 4 deep infection, 4 loosening, 1 malposition, 1 nerve palsy 4 wire breakage, 1 trochanter detachment, 1 HO, 2 dislocations, 1 wound infection	47%	NR[a]
Reikeras et al [35]	1993	46 (46)	5–13	7 mechanical failures requiring revision	NR	15%
Schafer et al [36]	2000	15 (15)	5.4	6 complications: 2 nerve palsy, 2 deep infection, 2 aseptic loosening	40%	27%
Hamadouche et al [37]	2001	45 (45)	8.4	5 complications: 2 thrombosis, 1 haematoma 1 deep infection, 1 nerve palsy	11.1%	4.4%
Joshi et al [22]	2002	187 (208)	9.2	24 complications: 1 death from PE, 3 delayed wound healing, 5 dislocations, 15 nerve palsy	12%	5.8%
Rutz et al [23]	2009	22 (22)	13.2	6 complications: 2 nerve palsy, 2 deep infections, 2 loosening	27.2%	18%
Petersen et al [24]	2009	30 (30)	10.4	7 failures: 2 dislocations 5 loosening	23%	23%
Fernandez-Fairen et al [25]	2010	48 (48)	17	21 complications: 6 osteolysis, 3 loosening, 2 deep infection, 5 HO, 2 wire problems, 1 nerve palsy, 1 wound infection, 1 trochanter detachment	43.8%	23%
Richards and Duncan [26]	2011	26 (26)	9	14 complications: 5 deep infection, 1 thrombosis, 3 loosening, 1 osteolysis, 4 dislocations	54%	27%
Aderinto et al [27]	2012	18 (18)	5	5 complications: 1 thrombosis, 2 nerve palsies 1 HO, 1 loosening	27.7%	11%

[a] NR, not reported; HO, heterotopic ossification.

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Septic arthritis L hip

THR 18 yrs later

Lateral cobra plate

Post op


A


B

Ankylosed THR

Post op

Conclusions

- Fuse in correct position, flexion 20-30°, add 5°, ER 5-10°, limb-length discrepancy <2 cm
- Back, ipsilateral knee & contralateral hip pain common complaints following arthrodesis leading to secondary conversion of a hip fusion to a THA
- Symptoms improve markedly after conversion

Conclusions

- Decreasing in numbers
- Ten year survivorship of between 74% and 96% has been demonstrated
- Some series document complications ~50%

Conclusions

- Survivorship of the conversion THA is comparable to that of a primary THA when patient is > 50yrs
- Procedure technically challenging and has a high risk of postoperative complications
- Results of conversion are inferior to those of primary and revision replacement

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Thank You