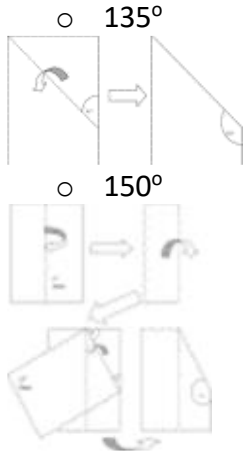


19 Proximal Femur – adult

PRO TIPS

- Use an A4 piece of paper to judge



- Displaced intracapsular neck of femur fractures should be considered as avascular osteochondral fragments, they need absolute stability. Once you have achieved union you can do nothing about the incidence of AVN.
- An active patient will be disabled if they lose their offset. In this group of patients, do NOT use sliding implants unless you have anatomic cortical reduction and a stable fracture pattern. In unstable fracture patterns you can still use a DHS as long as you use the locking device (see below)
- The DHS is one of the most commonly used implants, please make sure you are aware of some of the less familiar options and know how to use them. [DHS/DCS Technical Guide](#).
 - Short barrel DHS – This should be used if hip screw is ≤ 75 mm.
 - DHS/DCS Locking Device – Converts DHS into fixed angled device by preventing the hip screw sliding. The DHS Screw chosen must be 10 mm shorter than the length of the reamed hole.



- DHS/DCS Compression Screw – This is essential if using a DCS.



- Conventional DHS Trochanteric Stabilisation Plate (TSP)



- Locking Trochanteric Stabilisation Plate (LTSP) – NB only 3 holes so does not extend to bottom of plate.



- In order to claim to be a true Trauma surgeon you need to have performed at least one blade plate and then spend the rest of your career telling people about it. [Angled Blade Plate Technical Guide](#).

UK ISCP TRAUMA + ORTHOPAEDIC SYLLABUS

Knowledge

0 = No experience expected / 1= Has observed or knows of / 2= Can manage with assistance / 3 = Can manage whole but may need assistance / 4= Able to manage without assistance including potential common complications
 Green text = Oxford Trauma Service suggestions

Topic	CORE	ST3-ST8	>ST8
Basic Science (Regional)			
Anatomy			
Anatomy of the hip and pelvic region and related structures	3	4	4
Approaches for hip fractures	3	4	4
Physiology			
Physiology of nerve function affecting the hip	2	4	4
Investigations			
Radiological investigations to assess the hip	3	4	4
Assessments			
History and examination of hip including special clinical tests	3	4	4
Treatments			
Proximal femoral fractures	3	4	4
Operative			
Management of closed peri-articular fractures	2	4	4
Arthroplasty of the hip	2	4	4
Management of tendon, ligament and nerve injuries	1	4	4
Non-operative			
Orthoses	1	4	4
Complications			
Failed arthroplasty and soft tissue surgery	1	3	4

Technical

0 = No experience expected / 1= Has observed or knows of / 2= Can manage with assistance / 3 = Can manage whole but may need assistance / 4= Able to manage without assistance including potential common complications
 Green text = Oxford Trauma Service suggestions

Topic	CORE	ST3-ST8	>ST8
Dislocated hip			
Dislocated hip (no prosthesis) - open reduction +/- fixation	0	3	4
Dislocated hip hemiarthroplasty - closed reduction	2	4	4
Dislocated hip hemiarthroplasty - open reduction	0	4	4
Dislocated total hip replacement - closed reduction	2	4	4
Dislocated total hip replacement - open reduction	0	4	4
Extracapsular fracture			
Extracapsular fracture CHS / DHS	3	4	4
Extracapsular fracture intramedullary fixation	0	4	4
Extracapsular fracture other fixation	0	4	4
Intracapsular fracture			
Intracapsular fracture bipolar hemiarthroplasty	0	4	4
Intracapsular fracture hemiarthroplasty excluding bipolar	2	4	4
Intracapsular fracture internal fixation	1	4	4
Intracapsular fracture THR	1	4	4
Irrigation and debridement native joint for infection - hip	0	4	4
Irrigation and debridement prosthesis for infection - hip	0	4	4
Reconstruction of avulsed proximal hamstrings	0	1	3
Subtrochanteric fracture			
Subtrochanteric fracture intramedullary fixation	0	4	4
Subtrochanteric fracture plate/screw fixation	0	4	4

Please find below, resources that cover the syllabus objectives.

DISCUSSION SLIDES

- OTA Resident Lectures – [Femoral Neck Fractures in Patients Younger than 50 years](#)
- OTA Resident Lectures – [Femoral Neck Fractures in patients Over 50 \(Fix or Replace\)](#)
- OTA Resident Lectures – [Intertrochanteric Femur Fractures](#)
- OTA Resident Lectures – [Subtrochanteric Femoral Fractures](#)

RECOMMENDED KNOWLEDGE REVIEW RESOURCES

FEMORAL NECK FRACTURES

- Rockwood + Green Chapter 52a: Femoral Neck Fractures p2231-2283
- Orthobullets – [Femoral neck fractures](#)
- Orthobullets – [Femoral Neck Stress Fractures](#)
- Orthobullets – [Femoral neck non union](#)
- JBJS Clinical Summary – [Femoral Neck Fractures in the Elderly](#)
- [Complex Proximal Femur Fractures in the Adolescent and Young Adult](#), OTA webinar 2017 (72 mins)

TROCHANTERIC FRACTURES

- Rockwood + Green Chapter 53a: Trochanteric Hip Fractures p2284-2317
- Orthobullets – [Intertrochanteric femur fractures](#)
- JBJS Clinical Summary – [Intertrochanteric Hip Fractures](#)

SUBTROCHANTERIC FRACTURES

- Rockwood + Green Chapter 54a: Subtrochanteric Femur Fractures p2318-2340
- Orthobullets – [Subtrochanteric fractures](#)
- JBJS Clinical Summary – [Subtrochanteric Femoral Fractures](#)

SCORING / CLASSIFICATION SYSTEMS

- [AO/OTA](#)

RECOMMENDED TECHNICAL REVIEW RESOURCES

FEMORAL NECK FRACTURES

- AO Surgery Reference – [Proximal Femur](#) (Adult)

TROCHANTERIC FRACTURES

- AO Surgery Reference – [Proximal Femur](#) (Adult)
- Russell – [Nailing Intertrochanteric Fractures: Long or Short Nails and Technical Tricks](#), VuMedi 2017 (17 mins)

SUBTROCHANTERIC FRACTURES

- AO Surgery Reference – [Title](#)
- AO Surgery Reference – [Proximal Femur](#) (Adult) – **check this covers sub troch**
- Gardner – [Blade Plate](#), OrthoBullets 2018 (7 mins)

COMPLICATIONS

- AO Surgery Reference – [Proximal Femur](#) (Adult) – **check this covers sub troch**
- Gardner – [Blade Plate](#), OrthoBullets 2018 (7 mins)
- [Failed Fixation of Extra Capsular Hip Fractures](#), OTA webinar 2017 (63 mins)

SMITH + NEPHEW

- [Trauma Education](#)
- [Trauma Products + Guides](#)
- [Trigen – INTERTAN](#)
- [Trigen - METATAN](#)
- [Conquest FN](#)

STRYKER

- [Surgeon Education](#)

- [Trauma Products + Guides](#)
- [Omega 3](#)
- [Gamma Nail](#) (all variants)

DEPUY SYNTHES

- [Educational Material](#)
- [Trauma Products + Guides](#)
- [Dynamic Hip Screw](#)
- [Angled Blade Plate](#)

GUIDES + PROTOCOLS

NICE (NATIONAL INSTITUTE FOR CLINICAL EXCELLENCE)

- [Trauma \(QS166\)](#)
- [Fractures \(non-complex\): assessment and management \(NG38\)](#)
- [Rehabilitation after traumatic injury \(NG211\)](#)
- [Hip fracture: management \(CG124\)](#)
- [Hip fracture: management \(update\)](#)
- [Hip fractures in adults \(QS16\)](#)
- [Osteoporosis: assessing the risk of fragility fractures \(CG146\)](#)
- [Osteoporosis \(QS149\)](#)
- [Falls in older people \(QS86\)](#)
- [Falls in older people: assessing risk and prevention \(CG161\)](#)
- [Falls Prevention Exercise and Education Programme](#)
- [Delirium: prevention, diagnosis and management \(CG103\)](#)
- [NICE impact: falls and fragility fractures](#)

BOA (BRITISH ORTHOPAEDIC ASSOCIATION) STANDARDS FOR TRAUMA

- [BOAST - The Care of the Older or Frail Orthopaedic Trauma Patient](#)
- [BOAST - Fracture Liaison Services](#)
- [BOAST - Patients Sustaining a Fragility Hip Fracture](#)

NATIONAL HIP FRACTURE DATABASE

- [Dashboards](#)
- [Patient Information](#)

ABSTRACTS + FULL TEXT PAPERS

GENERAL

Hemiarthroplasty Compared With Internal Fixation for Treatment of Nondisplaced Femoral Neck Fractures in Elderly Patients: A Retrospective Study

Injury 2020 Apr;51(4):1021-1024. doi: 10.1016/j.injury.2020.02.098. Epub 2020 Feb 20.

<https://pubmed.ncbi.nlm.nih.gov/32147143/>

Comparison of the Charlson Comorbidity Index With the ASA Score for Predicting 12-month Mortality in Acute Hip Fracture

Injury 2020 Apr;51(4):1004-1010. doi: 10.1016/j.injury.2020.02.074. Epub 2020 Feb 24.

<https://pubmed.ncbi.nlm.nih.gov/32151423/>

Diagnostic Performance of CT for Occult Proximal Femoral Fractures: A Systematic Review and Meta-Analysis American Journal of Roentgenology. 2019;213: 1324-1330. 10.2214/AJR.19.21510

<https://www.ajronline.org/doi/abs/10.2214/AJR.19.21510>

Association of Perioperative Computed Tomography Hounsfield Units and Failure of Femoral Neck Fracture Fixation

J Orthop Trauma 2020 May 18. doi: 10.1097/BOT.0000000000001843.

<https://pubmed.ncbi.nlm.nih.gov/32433076/>

Screw Fixation Versus Hemiarthroplasty for Non-Displaced Femoral Neck Fractures in the Elderly: A Cost-Effectiveness Analysis

J Orthop Trauma 2020 May 5. doi: 10.1097/BOT.0000000000001747. Online ahead of print.

<https://pubmed.ncbi.nlm.nih.gov/32398470/>

A Cross Sectional Study of Outcomes of Muscle Pedicle Grafting in Neck of Femur Fractures and Avascular Necrosis of Femoral Head

Injury 2020 May 8;S0020-1383(20)30357-0. doi: 10.1016/j.injury.2020.04.026. Online ahead of print.

<https://pubmed.ncbi.nlm.nih.gov/32409186/>

Dual Antiplatelet Therapy and Surgical Timing in Geriatric Hip Fracture

J Orthop Trauma 2020 Apr 8. doi: 10.1097/BOT.0000000000001779. Online ahead of print.

<https://pubmed.ncbi.nlm.nih.gov/32304474/>

Routine Follow-Up Is Unnecessary After Intramedullary Fixation of Trochanteric Femoral fractures-Analysis of 995 Cases

Injury 2020 Mar 10;S0020-1383(20)30255-2. doi: 10.1016/j.injury.2020.03.033. Online ahead of print.

<https://pubmed.ncbi.nlm.nih.gov/32220506/>

Hemiarthroplasty Versus Total Arthroplasty for Displaced Femoral Neck Fractures in the Elderly: Meta-Analysis of Randomized Clinical Trials

Arch Orthop Trauma Surg 2020 Mar 13. doi: 10.1007/s00402-020-03409-3. Online ahead of print.

<https://pubmed.ncbi.nlm.nih.gov/32170452/>

Risk of Arterial Injury During Hip Internal Fixation (If you lose >50mls of blood during a DHS, you are hitting one of these!)

J Bone Joint Surg Am 2019 Nov 6;101(21):1961-1964. doi: 10.2106/JBJS.19.00256.

<https://pubmed.ncbi.nlm.nih.gov/31596820/>

Open Reduction Is Associated With Greater Hazard of Early Reoperation After Internal Fixation of Displaced Femoral Neck Fractures in Adults 18-65 Years

J Orthop Trauma 2020 Jun;34(6):294-301. doi: 10.1097/BOT.0000000000001711.

<https://pubmed.ncbi.nlm.nih.gov/32079891/>

Posterior Fully Threaded Positioning Screw Prevents Femoral Neck Collapse in Garden I or II Femoral Neck Fractures

Injury 2020 Apr;51(4):1031-1037. doi: 10.1016/j.injury.2020.01.032. Epub 2020 Jan 24.

<https://pubmed.ncbi.nlm.nih.gov/32089281/>

Radiological Subsidence and Acetabular Erosion After Tapered Uncemented Hemiarthroplasty in Femoral Neck Fractures a 10- To 13- Year Follow-Up Study

Injury 2020 Apr;51 Suppl 1:S37-S41. doi: 10.1016/j.injury.2020.02.012. Epub 2020 Feb 10.

<https://pubmed.ncbi.nlm.nih.gov/32067774/>

Can We Predict Failure of Percutaneous Fixation of Femoral Neck Fractures?

Injury 2020 Feb;51(2):357-360. doi: 10.1016/j.injury.2019.10.068. Epub 2019 Oct 22.

<https://pubmed.ncbi.nlm.nih.gov/31679832/>

The Effect of Surgical Approach on Outcomes Following Total Hip Arthroplasty Performed for Displaced Intracapsular Hip Fractures: An Analysis From the National Joint Registry for England, Wales, Northern Ireland and the Isle of Man

J Bone Joint Surg Am 2020 Jan 2;102(1):21-28. doi: 10.2106/JBJS.19.00195.

<https://pubmed.ncbi.nlm.nih.gov/31663927/>

Fewer Patients Undergo Surgery When Adding a Comprehensive Geriatric Assessment in Older Patients With a Hip Fracture

Arch Orthop Trauma Surg 2020 Apr;140(4):487-492. doi: 10.1007/s00402-019-03294-5. Epub 2019 Oct 29.

<https://pubmed.ncbi.nlm.nih.gov/31664575/>

J Bone Joint Surg Am 2019 Oct 16;101(20):1852-1859. doi: 10.2106/JBJS.18.01256.

Not All Garden-I and II Femoral Neck Fractures in the Elderly Should Be Fixed: Effect of Posterior Tilt on Rates of Subsequent Arthroplasty

<https://pubmed.ncbi.nlm.nih.gov/31626010/>

Injury 2019 Dec;50(12):2158-2166. doi: 10.1016/j.injury.2019.09.039. Epub 2019 Oct 1.

Outcomes of Elderly Patients With Nondisplaced or Minimally Displaced Femoral Neck Fractures Treated With Internal Fixation: A Systematic Review and Meta-Analysis

<https://pubmed.ncbi.nlm.nih.gov/31623902/>

Dynamic Hip Screw With Trochanteric Stabilizing Plate in the Treatment of Unstable Proximal Femoral Fractures: A Comparative Study With the Gamma Nail and Compression Hip Screw

J Orthop Trauma 1998 May;12(4):241-8. doi: 10.1097/00005131-199805000-00005.

<https://pubmed.ncbi.nlm.nih.gov/9619458/?i=2&from=/30797542/related>

A Prospective Randomized Trial of 100 Patients Using Trochanteric Support Plates; Worth Their Mettle?

Injury 2019 Mar;50(3):733-737. doi: 10.1016/j.injury.2019.01.035. Epub 2019 Feb 7.

<https://pubmed.ncbi.nlm.nih.gov/30797542/>

Treatment of the Displaced Intracapsular Fracture for the 'Fitter' Elderly Patients: A Randomised Trial of Total Hip Arthroplasty Versus Hemiarthroplasty for 105 Patients

Martyn J Parker (urges caution)

Injury 2019 Nov;50(11):2009-2013. doi: 10.1016/j.injury.2019.09.018. Epub 2019 Sep 10.

<https://pubmed.ncbi.nlm.nih.gov/31543318/>

Femoral Neck Shortening After Hip Fracture Fixation Is Associated With Inferior Hip Function: Results From the FAITH Trial

J Orthop Trauma 2019 Oct;33(10):487-496. doi: 10.1097/BOT.0000000000001551.

<https://pubmed.ncbi.nlm.nih.gov/31464855/>

The Safety of Continuing Antiplatelet Medication Among Elderly Patients Undergoing Urgent Hip Fracture Surgery

Orthopedics 2019 Sep 1;42(5):268-274. doi: 10.3928/01477447-20190723-02. Epub 2019 Jul 29.

<https://pubmed.ncbi.nlm.nih.gov/31355906/>

The Treatment Strategies for Failed Fixation of Intertrochanteric Fractures

Injury 2019 Jul;50(7):1339-1346. doi: 10.1016/j.injury.2019.05.012. Epub 2019 May 20.

<https://pubmed.ncbi.nlm.nih.gov/31151758/>

Outcome of Non-Surgical Treatment of Proximal Femur Fractures in the Fragile Elderly Population

Injury 2019 Jul;50(7):1347-1352. doi: 10.1016/j.injury.2019.05.022. Epub 2019 May 22.

<https://pubmed.ncbi.nlm.nih.gov/31142435/>

Nonoperative Geriatric Hip Fracture Treatment Is Associated With Increased Mortality
A Matched Cohort Study

Journal of Orthopaedic Trauma: July 2019 - Volume 33 - Issue 7 - p 346-350

[https://journals.lww.com/jorthotrauma/Fulltext/2019/07000/Nonoperative Geriatric Hip Fracture Treatment Is 6.aspx](https://journals.lww.com/jorthotrauma/Fulltext/2019/07000/Nonoperative_Geriatric_Hip_Fracture_Treatment_Is_6.aspx)

Femoral Neck Fractures in Young Patients: State of the Art

J Orthop Trauma 2019 Jan;33 Suppl 1:S7-S11. doi: 10.1097/BOT.0000000000001366.

<https://pubmed.ncbi.nlm.nih.gov/30540666/>

Reduction Techniques for Young Femoral Neck Fractures

J Orthop Trauma 2019 Jan;33 Suppl 1:S12-S19. doi: 10.1097/BOT.0000000000001370.

<https://pubmed.ncbi.nlm.nih.gov/30540667/>

Novel Treatment Options for the Surgical Management of Young Femoral Neck Fractures

J Orthop Trauma 2019 Jan;33 Suppl 1(Suppl 1):S33-S37. doi: 10.1097/BOT.0000000000001368.

<https://pubmed.ncbi.nlm.nih.gov/30540670/>

Influence of Time to Surgery on the Incidence of Complications in Femoral Neck Fracture Treated With Cannulated Screws

Injury 2014 Nov;45 Suppl 5:S36-9. doi: 10.1016/S0020-1383(14)70019-1.

<https://pubmed.ncbi.nlm.nih.gov/25528623/?i=2&from=/23283374/related>

J Bone Joint Surg Am 2013 Jan 2;95(1):61-9. doi: 10.2106/JBJS.K.01081.

Risk Factors for Nonunion in Patients With Intracapsular Femoral Neck Fractures Treated With Three Cannulated Screws Placed in Either a Triangle or an Inverted Triangle Configuration

<https://pubmed.ncbi.nlm.nih.gov/23283374/?i=4&from=/30540670/related>

Treatment of Femoral Neck Fractures in Patients 45-64 Years of Age

Injury 2019 Mar;50(3):708-712. doi: 10.1016/j.injury.2018.11.020. Epub 2018 Nov 16.

<https://pubmed.ncbi.nlm.nih.gov/30471942/>

Hip Fractures - Treatment and Functional Outcome. The Development Over 25 Years

Injury 2018 Dec;49(12):2209-2215. doi: 10.1016/j.injury.2018.10.010. Epub 2018 Oct 13.

<https://pubmed.ncbi.nlm.nih.gov/30366830/>

Osteosynthesis With Parallel Implants in the Treatment of Femoral Neck Fractures: Minimal Effect of Implant Position on Risk of Reoperation

J Bone Joint Surg Am 2018 Oct 3;100(19):1682-1690. doi: 10.2106/JBJS.18.00270.

<https://pubmed.ncbi.nlm.nih.gov/30277998/>

Timing of Surgery for Hip Fractures in the Elderly: A Retrospective Cohort Study

Injury 2018 Oct;49(10):1848-1854. doi: 10.1016/j.injury.2018.07.026. Epub 2018 Jul 27.

<https://pubmed.ncbi.nlm.nih.gov/30097309/>

Effect of Cannulated Screws With Deep Circumflex Iliac Artery-Bone Grafting in the Treatment of Femoral Neck Fracture in Young Adults

Injury 2018 Aug;49(8):1587-1593. doi: 10.1016/j.injury.2018.06.014. Epub 2018 Jun 12.

<https://pubmed.ncbi.nlm.nih.gov/29929779/>

A Prospective Study With Ten Years Follow-Up of Two-Hundred Patients With Proximal Femoral Fracture

Injury 2018 Apr;49(4):841-845. doi: 10.1016/j.injury.2018.02.026. Epub 2018 Feb 26.

<https://pubmed.ncbi.nlm.nih.gov/29510856/>

Home, No Follow-Up: Are We Ignoring the Significance of Unplanned Clinic Attendances, Re-Admission and Mortality in the First 12 Months Post-Operatively in Over 65 Year Olds' Hip Fractures Treated With DHS Fixation?

Injury 2018 Mar;49(3):662-666. doi: 10.1016/j.injury.2018.01.007.

<https://pubmed.ncbi.nlm.nih.gov/29422294/>

Vertical Femoral Neck Fractures in Young Adults: A Closed Fixation Strategy Using a Transverse Cancellous Lag Screw

Injury 2017 Oct;48 Suppl 4:S10-S16. doi: 10.1016/S0020-1383(17)30769-6.

<https://pubmed.ncbi.nlm.nih.gov/29145961/>

Medial Buttress Plate Augmentation of Cannulated Screw Fixation in Vertically Unstable Femoral Neck Fractures: Surgical Technique and Preliminary Results

Injury 2017 Oct;48(10):2189-2193. doi: 10.1016/j.injury.2017.08.017. Epub 2017 Aug 9.

<https://pubmed.ncbi.nlm.nih.gov/28818323/>

Injury 2017 Aug;48(8):1837-1842. doi: 10.1016/j.injury.2017.06.013. Epub 2017 Jun 20.

Femoral Neck Shortening in Adult Patients Under the Age of 55 Years Is Associated With Worse Functional Outcomes: Analysis of the Prospective Multi-Center Study of Hip Fracture Outcomes in China (SHOC)

<https://pubmed.ncbi.nlm.nih.gov/28651782/>

Accurate Guide Wire of Lag Screw Placement in the Intertrochanteric Fractures: A Technical Note

Arch Orthop Trauma Surg 2017 Sep;137(9):1219-1222. doi: 10.1007/s00402-017-2754-3. Epub 2017 Jul 19.

<https://pubmed.ncbi.nlm.nih.gov/28725919/>

Subtrochanteric fractures in elderly people treated with intramedullary fixation: quality of life and complications following open reduction and cerclage wiring versus closed reduction. Codesido P, Mejia A, Riego J, Ojeda-Thies C, et al. Arch Orthop Trauma Surg 2017 May 29. doi: 10.1007/s00402-017-2722.

<http://m.amedeo.com/28555367>

Posterior Versus Lateral Approach for Hemiarthroplasty After Femoral Neck Fracture: Early Complications in a Prospective Cohort of 583 Patients

Injury 2017 Jul;48(7):1565-1569. doi: 10.1016/j.injury.2017.03.024. Epub 2017 Mar 22.

<https://pubmed.ncbi.nlm.nih.gov/28465004/>

Femoral Neck Fracture Osteosynthesis by the Biplane Double-Supported Screw Fixation Method (BDSF) Reduces the Risk of Fixation Failure: Clinical Outcomes in 207 Patients

Arch Orthop Trauma Surg 2017 Jun;137(6):779-788. doi: 10.1007/s00402-017-2689-8. Epub 2017 Apr 8.

<https://pubmed.ncbi.nlm.nih.gov/28391429/>

Mullins B, Akehurst H, Slattery D, Chesser TJS. Should surgery be delayed in patients taking direct oral anticoagulants who suffer a hip fracture? A retrospective, case-controlled observational study at a UK major trauma centre. BMJ Open 2018; 8: e020625. doi: 10.1136/bmjopen-2017-020625 (PMID:29705761, attached).

Orthogonal Plating With a 95-Degree Blade Plate for Salvage of Unsuccessful Cephalomedullary Nailing of Atypic Femur Fractures: A Technical Trick

J Orthop Trauma 2019 Jun;33(6):e246-e250. doi: 10.1097/BOT.0000000000001426.

<https://pubmed.ncbi.nlm.nih.gov/30633079/>

OUTCOME

[Fracture fixation in the operative management of hip fractures \(FAITH\): an international, multicentre, randomised controlled trial](#) – Lancet 2017 Apr 15;389(10078):1519-1527. [Free full text]

https://journals.lww.com/jorthotrauma/Abstract/9000/Patient_Reported_Outcomes_of_Femoral_Head.98223.aspx - 10 year follow up

Short vs Long Cephalo-medullary Nails

<https://insights.ovid.com/pubmed?pmid=31232891>

THR vs Hemi

https://myorthoevidence.com/AceReports/Report/12265?vgo_ee=LCsd3byV%2Bd1yP2HjfeMC0GIIAVA3WwyMTm1SEgjcgo%3D

DHS vs Screws Undisplaced Femoral Neck

https://myorthoevidence.com/AceReports/Report/5605?vgo_ee=LCsd3byV%2Bd1yP2HjfeMC0GIIAVA3WwyMTm1SEgjcgo%3D

Injury 2020 Aug 23; S0020-1383(20)30703-8.

Prognosis of nonoperative treatment in elderly patients with a hip fracture: A systematic review and meta-analysis
[Sverre A I Loggers](#) 1, [Esther M M Van Lieshout](#) 2, [Pieter Joesse](#) 3, [Michael H J Verhofstad](#) 4, [Hanna C Willems](#) 5
DOI: [10.1016/j.injury.2020.08.027](https://doi.org/10.1016/j.injury.2020.08.027)

Injury 2020 Sep 3; S0020-1383(20)30709-9.

The functional effect of lesser trochanter involvement in hip fractures: A prospective cohort study
[Max P L van der Sijp](#) 1, [Lidwien Moonen](#) 2, [Inger B Schipper](#) 3, [Pieta Krijnen](#) 3, [Karel J du Pré](#) 4, [Arthur H P Niggebrugge](#) 2

DOI: [10.1016/j.injury.2020.09.002](https://doi.org/10.1016/j.injury.2020.09.002)