Géronto-traumatologie

Dr méd. Kevin Moerenhout

Médecin Associé

Orthopédie - Traumatologie

Plan

- Situation actuelle de la traumatologie chez le patient âgé ?
- Quels sont les problèmes rencontrés lors de la prise en charge ?
- Comment le spécialiste et généraliste peuvent travailler ensemble ?

Géronto-traumatologie: situation actuelle

Géronto-traumatologie: situation actuelle

- Fracture (fx) de fragilité = fx lors d'une chute 'banale' (propre hauteur)
- Plus fréquentes :
  - Hanche / bassin
  - Vertébrale
  - Poignet

Cauley et al., J Gerontol Ser A Biol Sci Med Sci

Géronto-traumatologie: situation actuelle

- Fracture (fx) de fragilité = fx lors d'une chute 'banale' (propre hauteur)
- Plus fréquentes :
  - Hanche / bassin -> mortalité
  - Vertébrale
  - Poignet

Rizkallah et al., Osteoporos Sarcopenia 2020

Géronto-traumatologie: situation actuelle

- Incidence fx hanche ↓
  - Substitution hormonale
  - Vit D + Calcium
  - Prévention des chutes
  - Consommation OH ↓
  - Stop tabac

Coutaz et al., RMS 2014
Brauer et al., JAMA 2009

Géronto-traumatologie: situation actuelle

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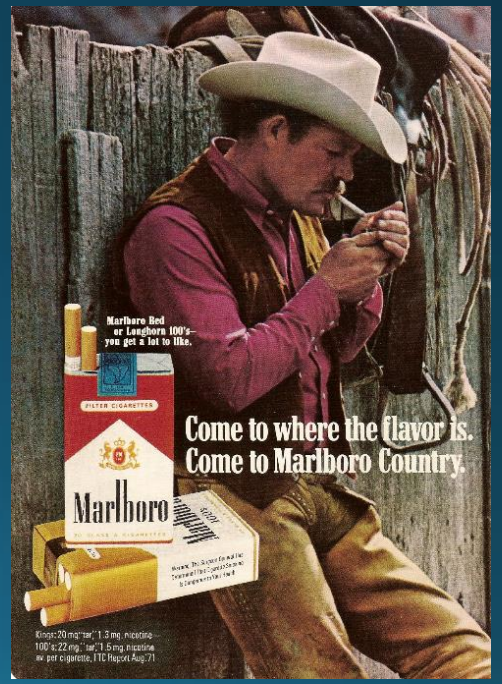

Coutaz et al., RMS 2014
Brauer et al., JAMA 2009

Géronto-traumatologie: situation actuelle

- Incidence fx hanche ↓
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  - Vit D + Calcium
  - Prévention des chutes
  - Consommation OH ↓
  - Stop tabac

Coutaz et al., RMS 2014
Brauer et al., JAMA 2009

Géronto-traumatologie: situation actuelle

- Incidence fx hanche ↓
- Mortalité reste élevé
  - 1 an : † 25-30%
- Fonction status post ante : 25-30%

Coutaz et al., RMS 2014
Brauer et al., JAMA 2009

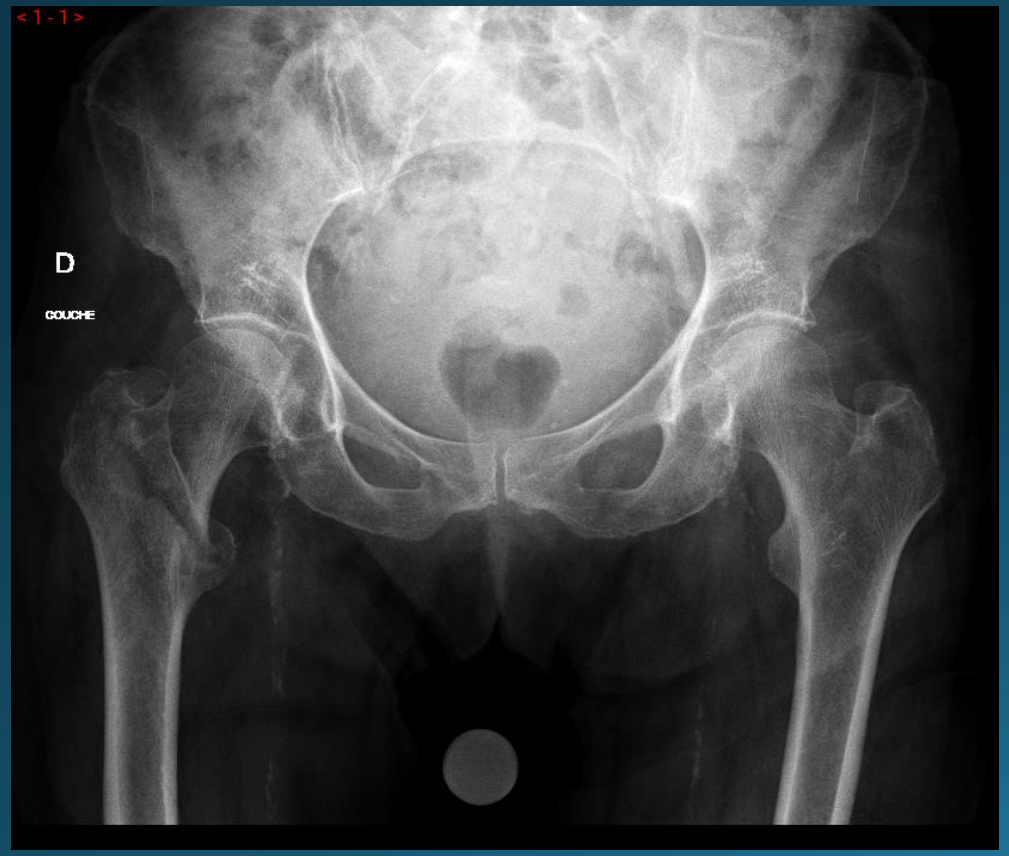
Fx fémur proximal

Fx fémur proximal

- Fx pertrochanterienne

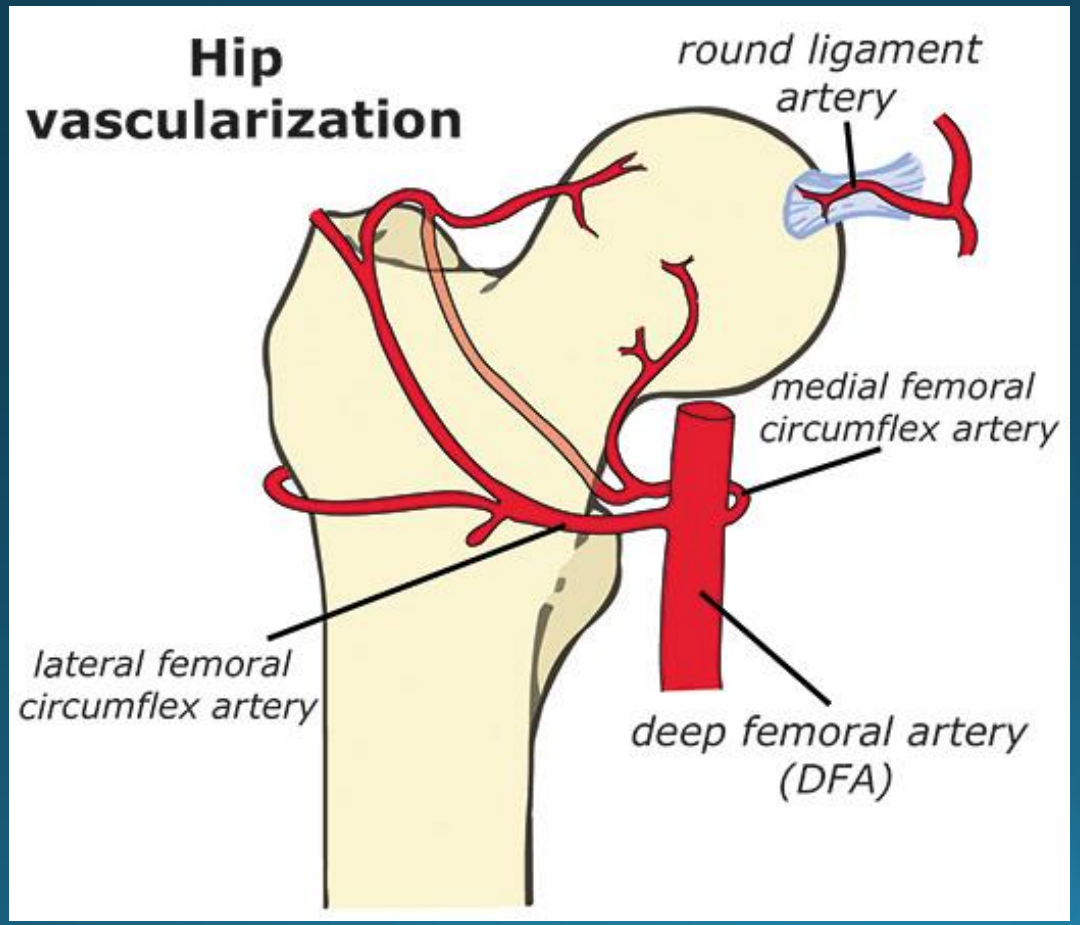
Fx fémur proximal

- Fx pertrochanterienne



Fx fémur proximal

- Fx pertrochanterienne



Fx fémur proximal

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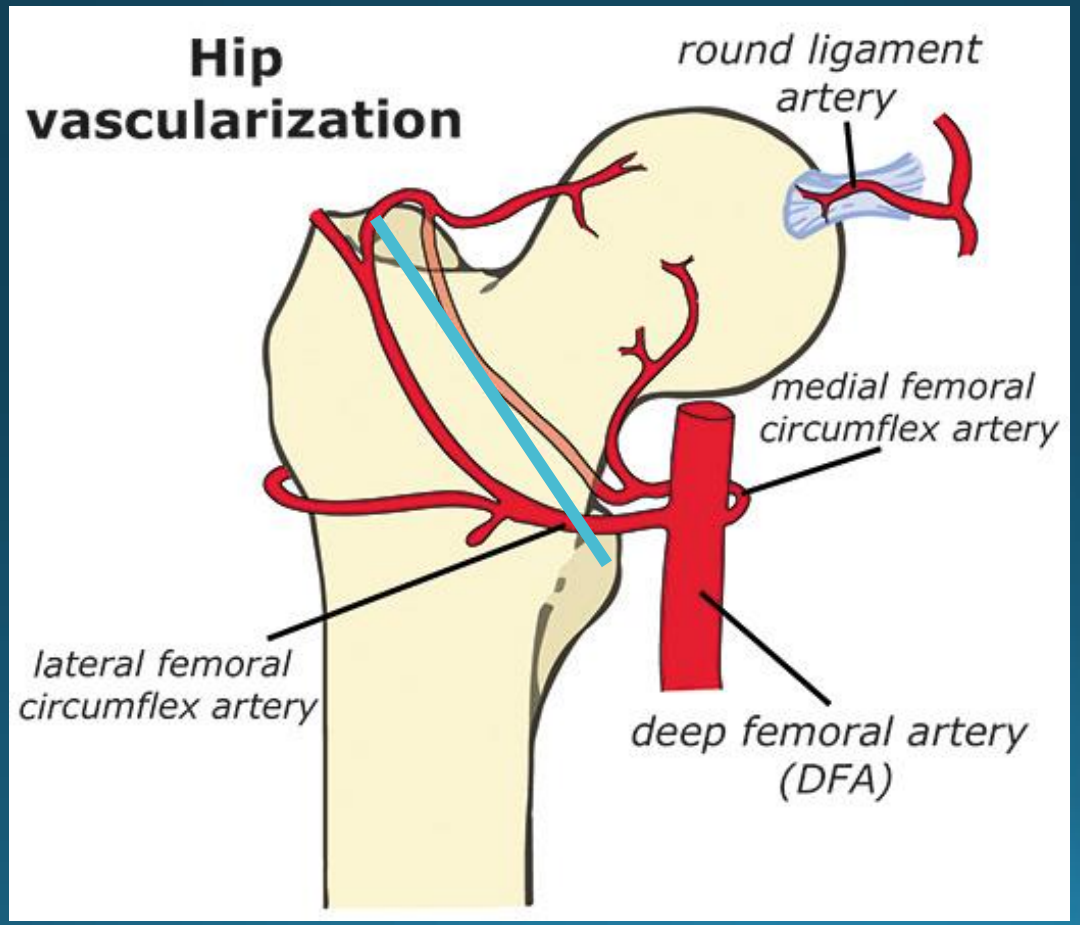


Fx fémur proximal

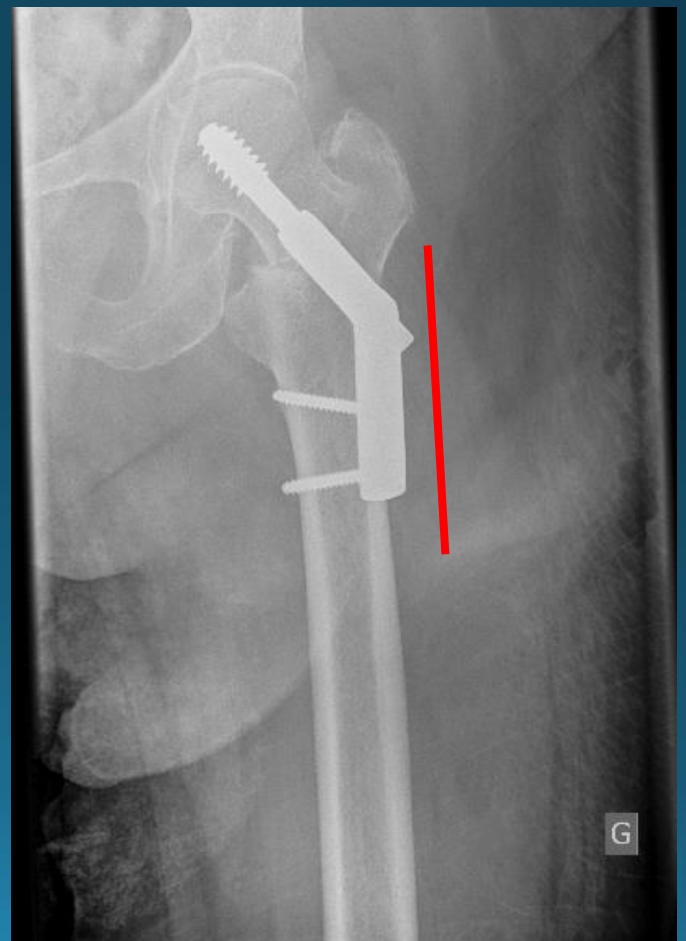
- Fx pertrochanterienne
  - DHS (dynamic hip screw)

Fx fémur proximal

- Fx pertrochanterienne
  - DHS

Fx fémur proximal

- Fx pertrochanterienne
  - DHS



Fx fémur proximal

- Fx pertrochanterienne
  - DHS
  - Clou centro-medullaire (type gamma)

Fx fémur proximal

- Fx pertrochanterienne
  - DHS
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Fx fémur proximal

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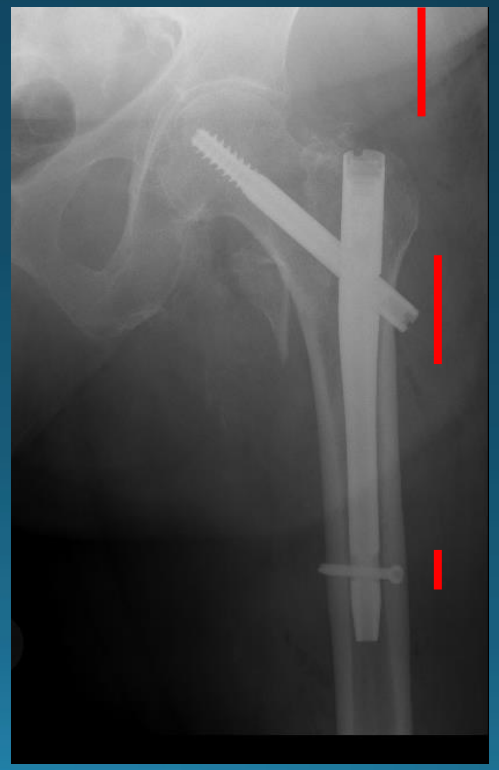

Fx fémur proximal

- Fx pertrochanterienne
  - Charge complète
  - Taux de guérison élevé
    - Bonne vascularisation
  - Complications
    - Mauvaise réduction
    - Varisation
    - ‘Fracture’ du clou

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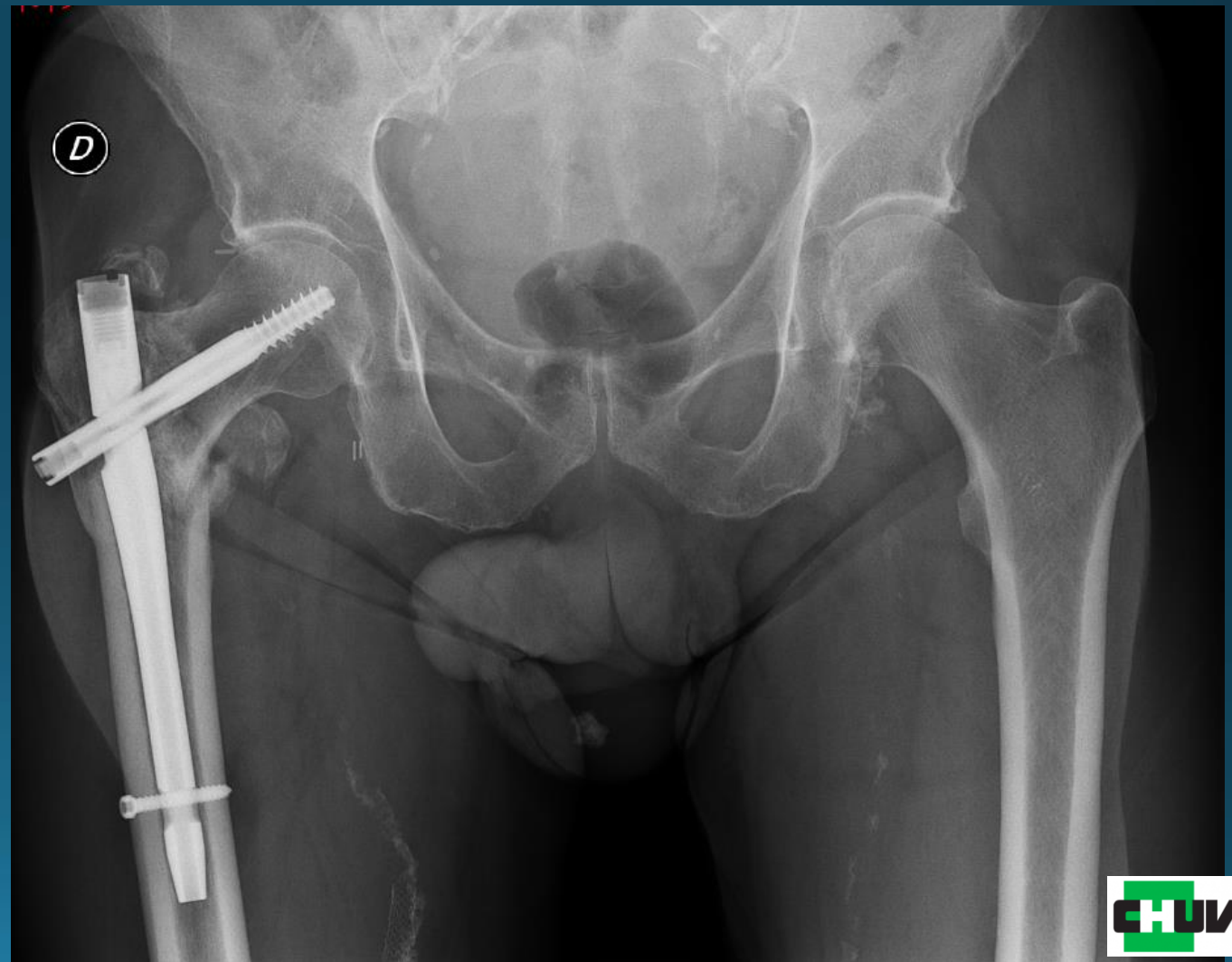

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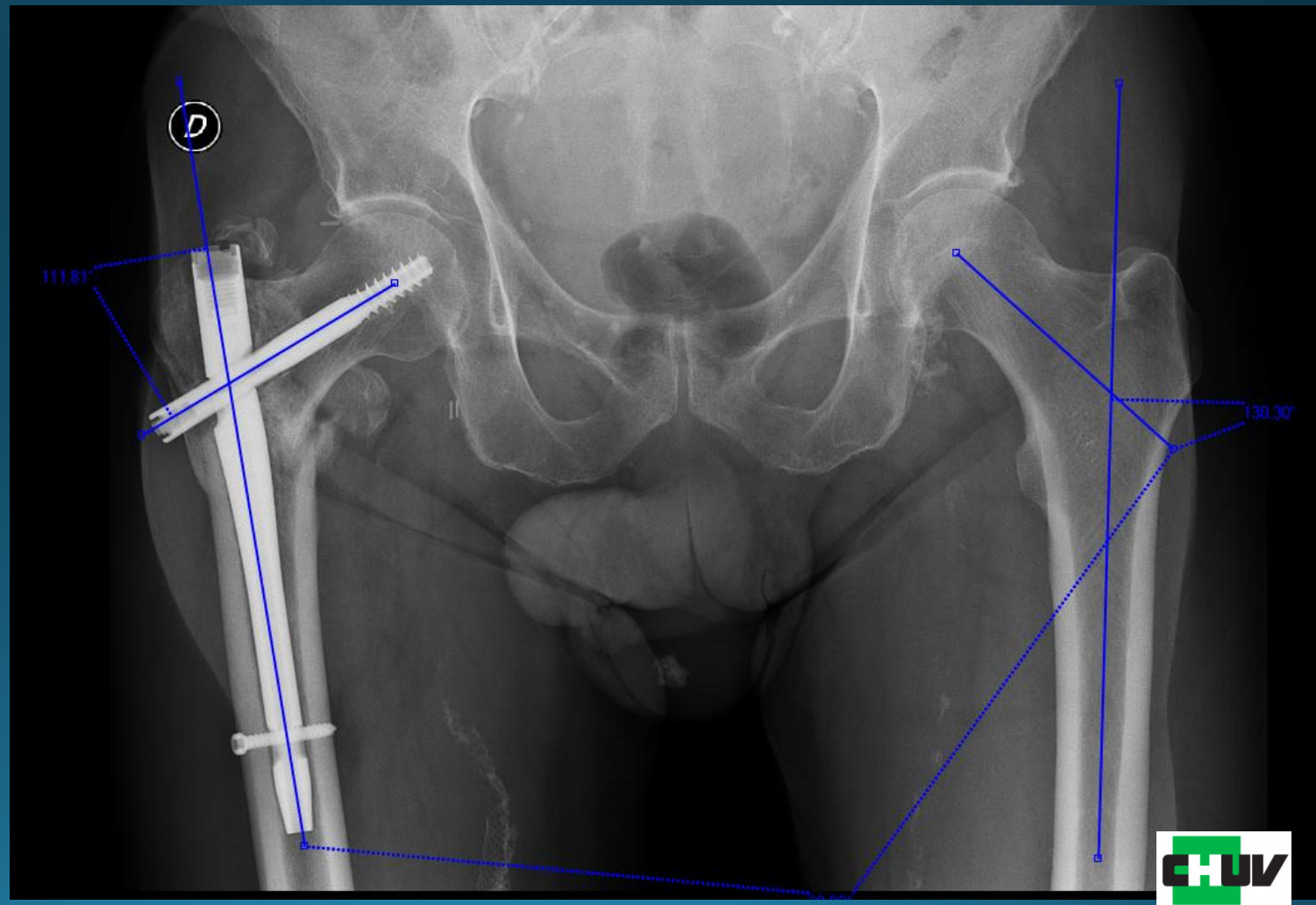

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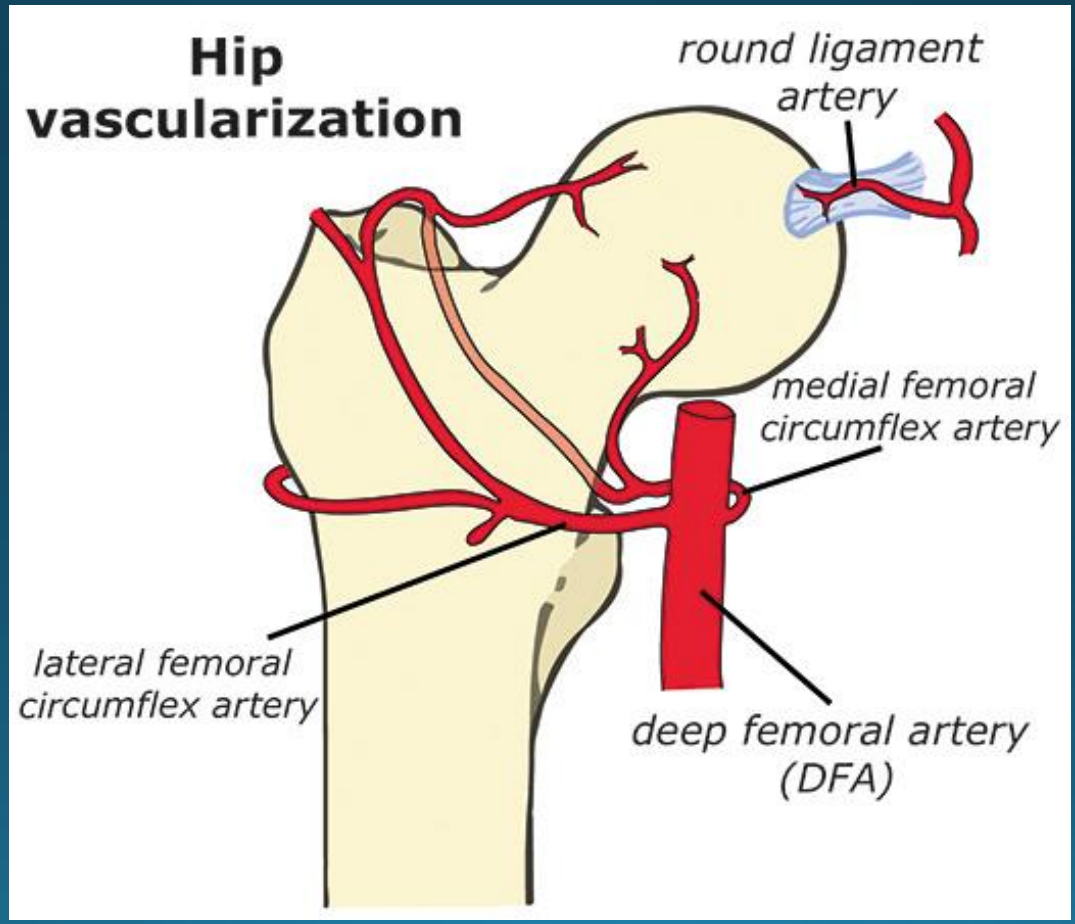
    - Varisation
    - 'Fracture' du clou

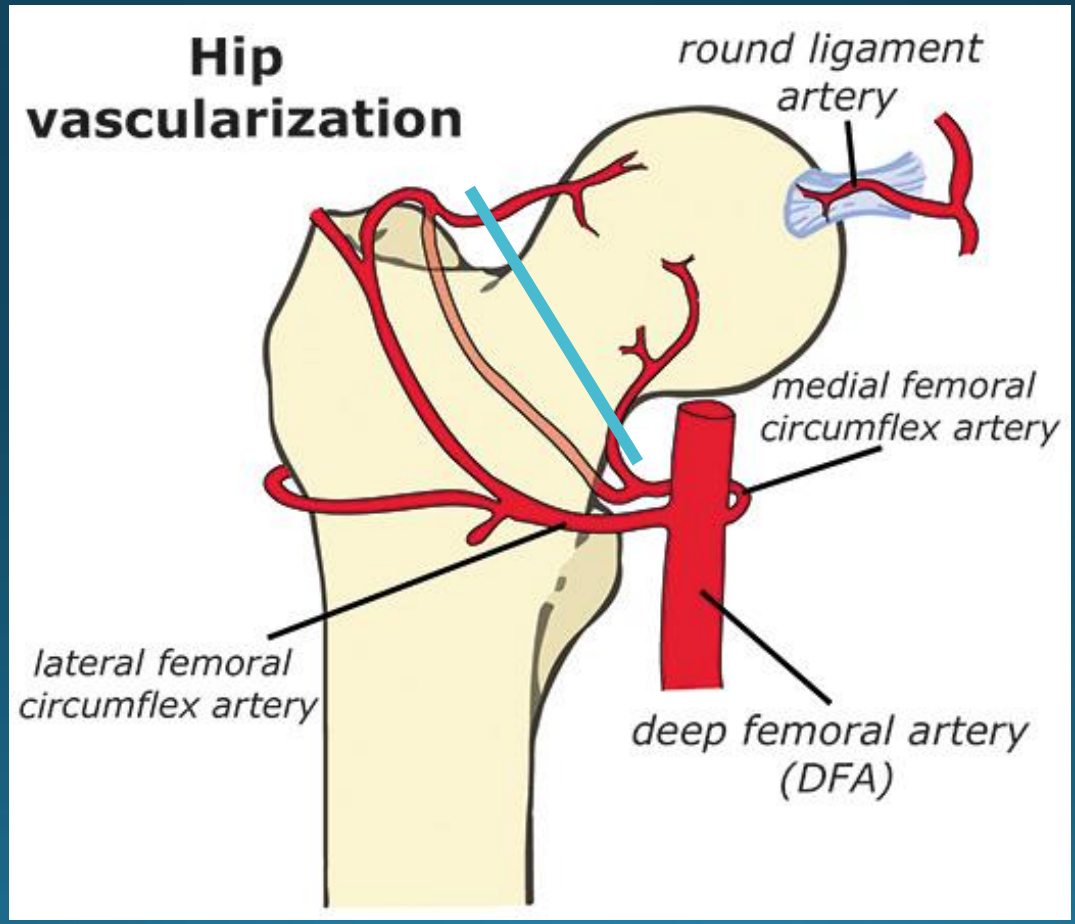
Fx fémur proximal

- Fx col fémoral



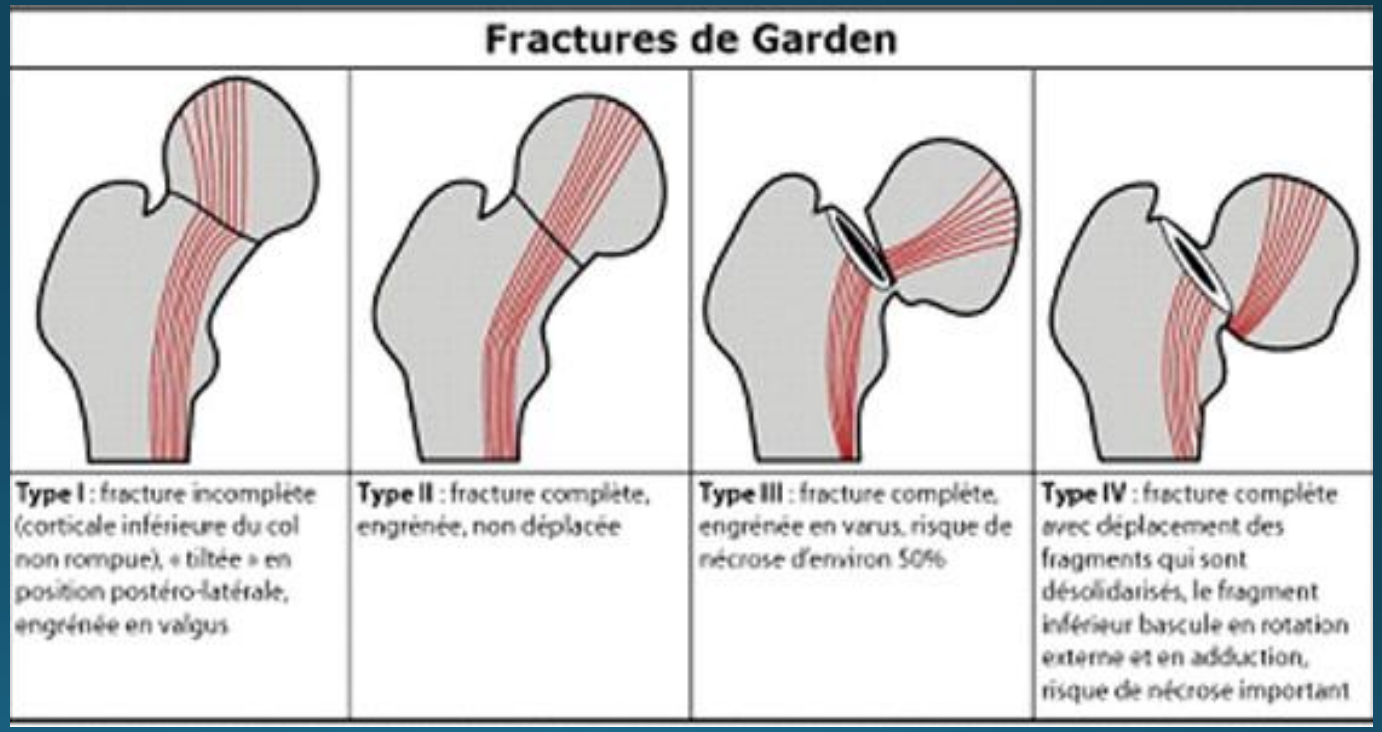
Fx fémur proximal

- Fx col fémoral



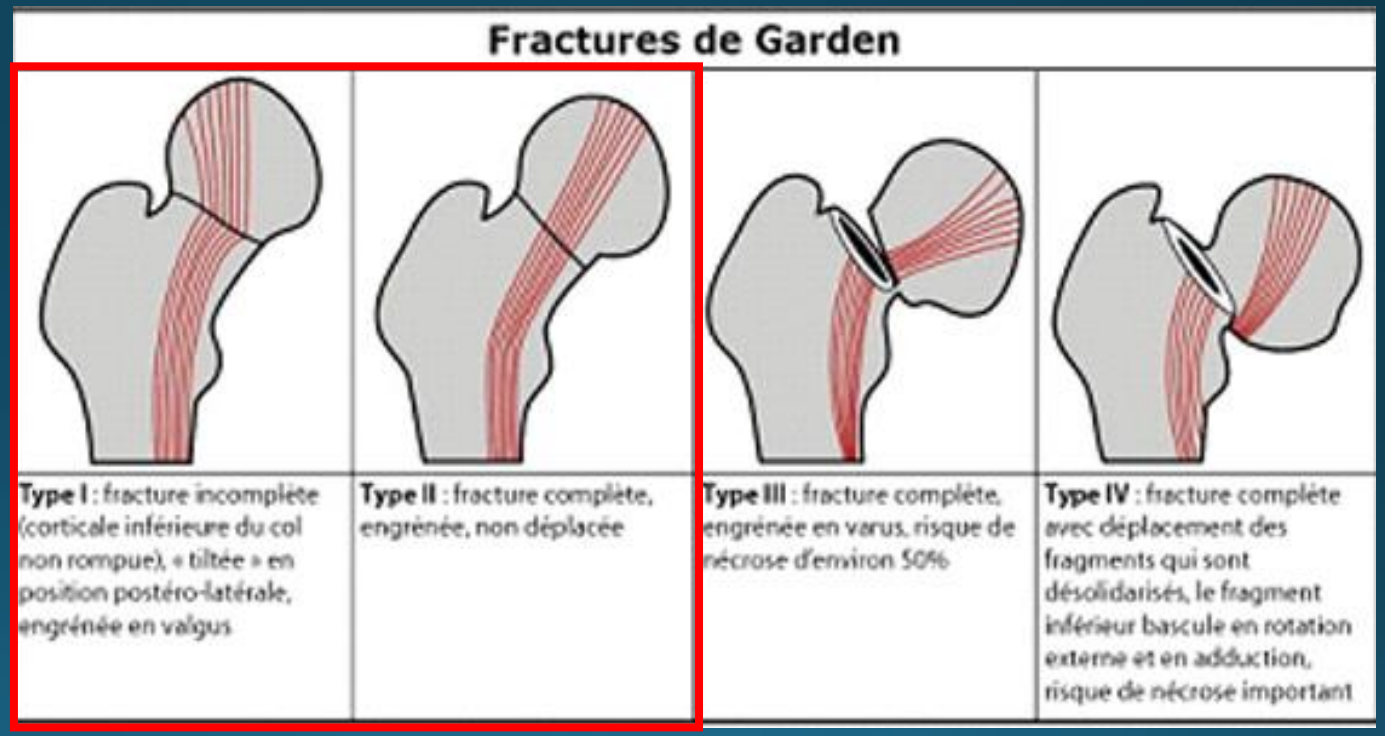
Fx fémur proximal

- Fx col fémoral



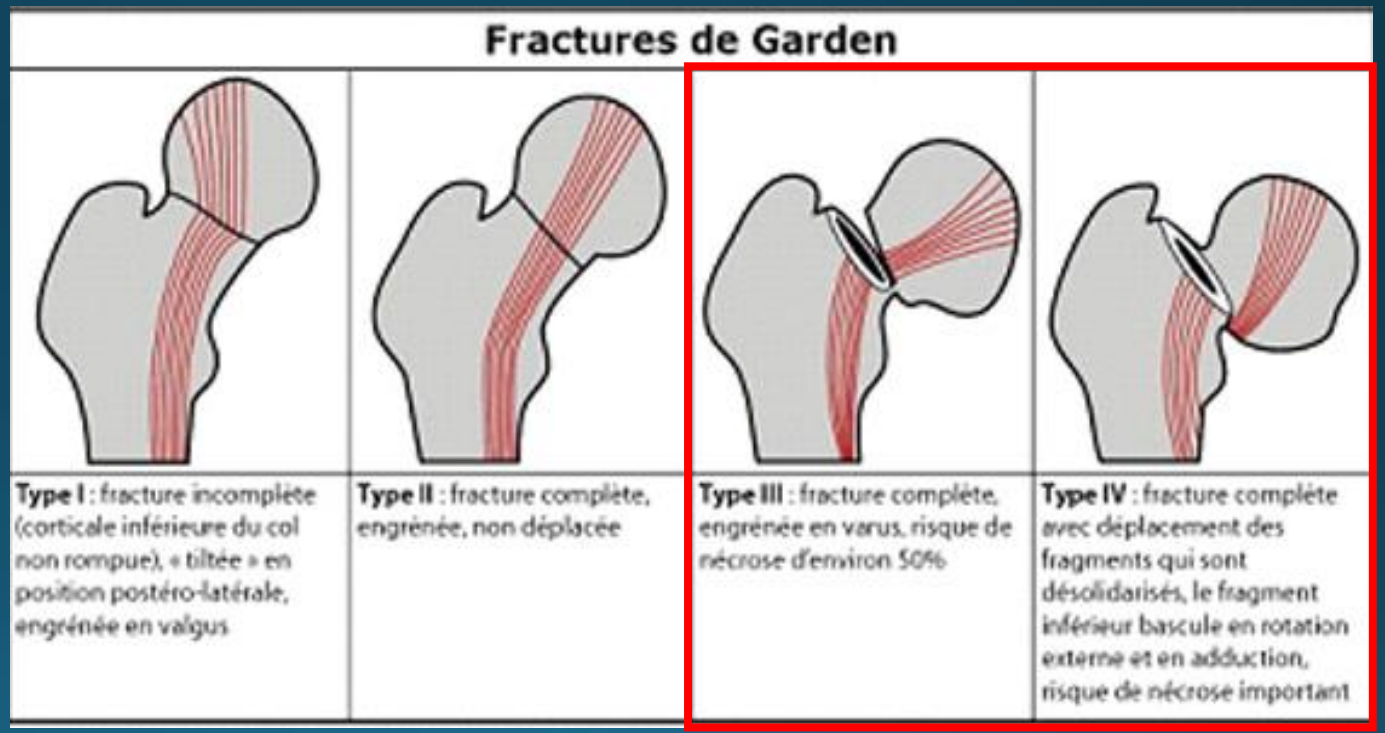
Fx fémur proximal

- Fx col fémoral
  - Stable



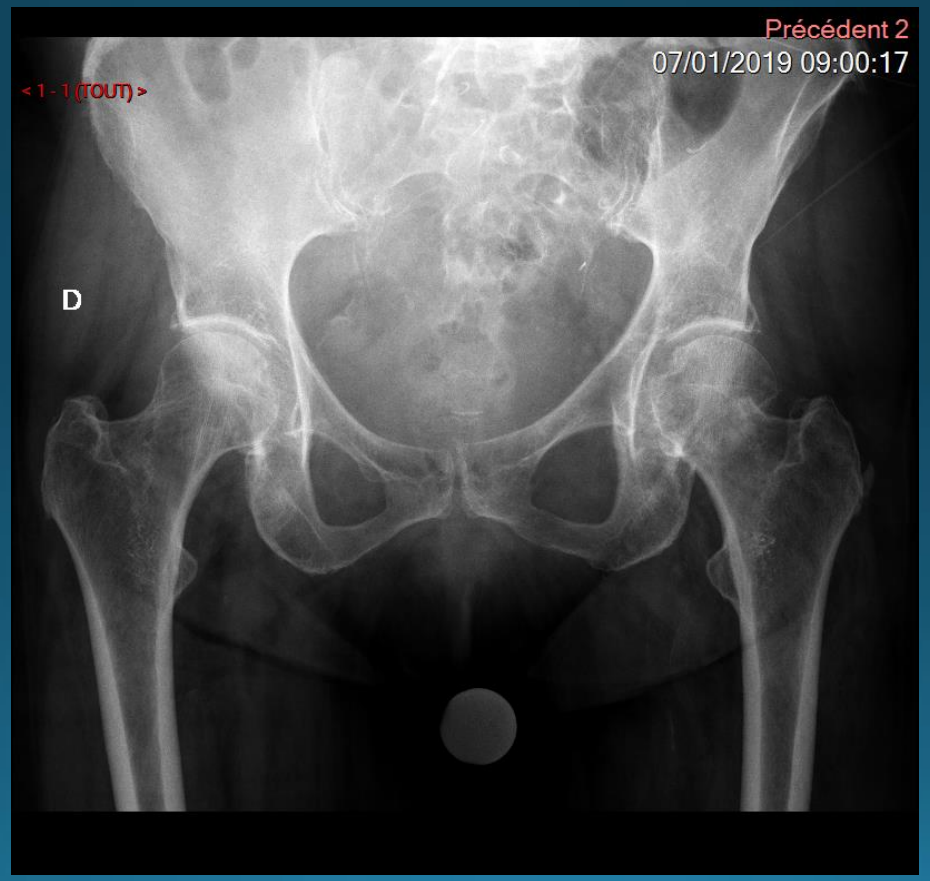
Fx fémur proximal

- Fx col fémoral
  - Stable
  - Instable



Fx fémur proximal

- Fx col fémoral
  - Stable

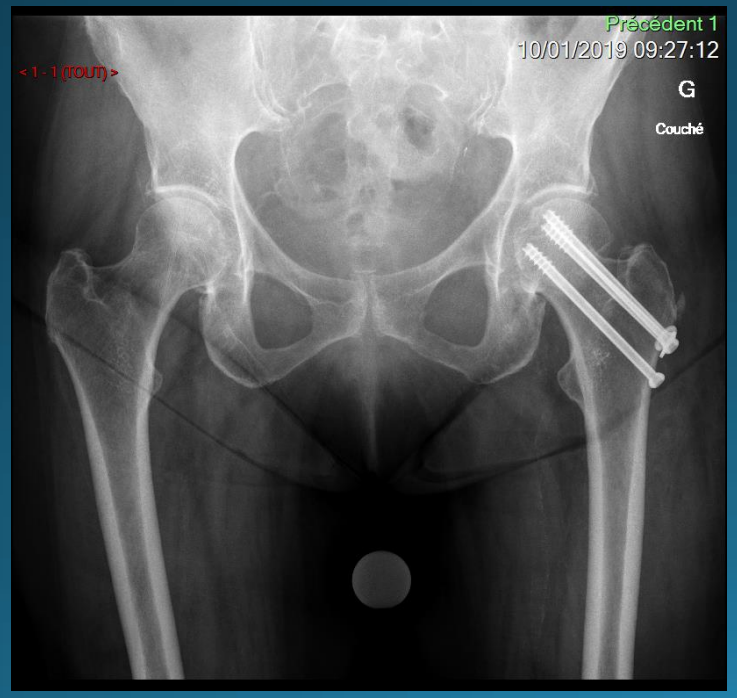


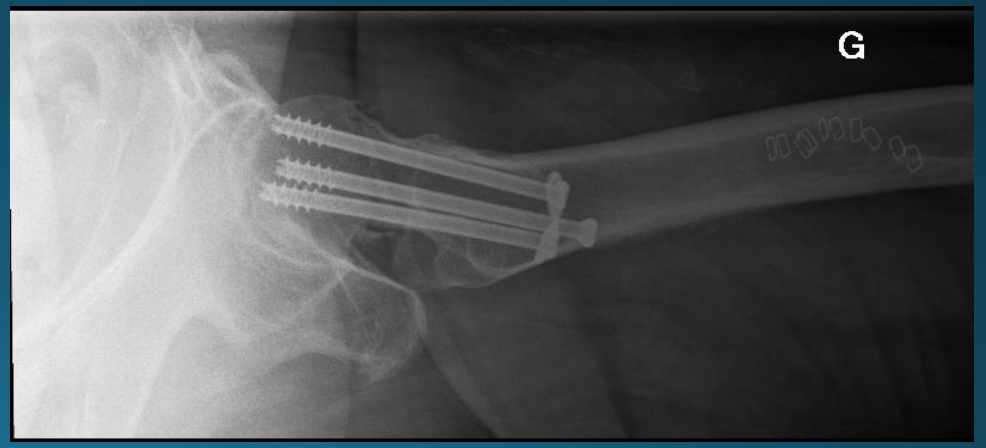
Fx fémur proximal

- Fx col fémoral
  - Stable: ttt conservateur

Fx fémur proximal

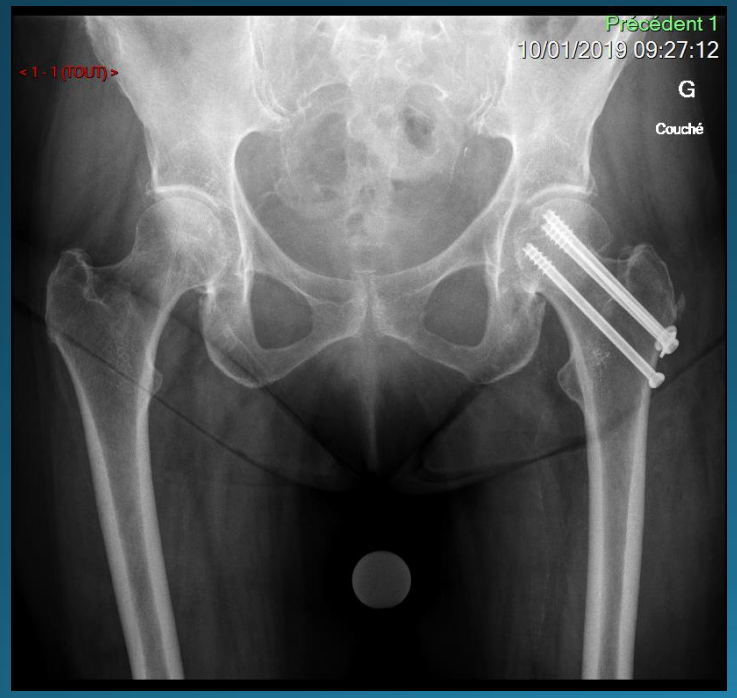
- Fx col fémoral
  - Stable: triple vissage

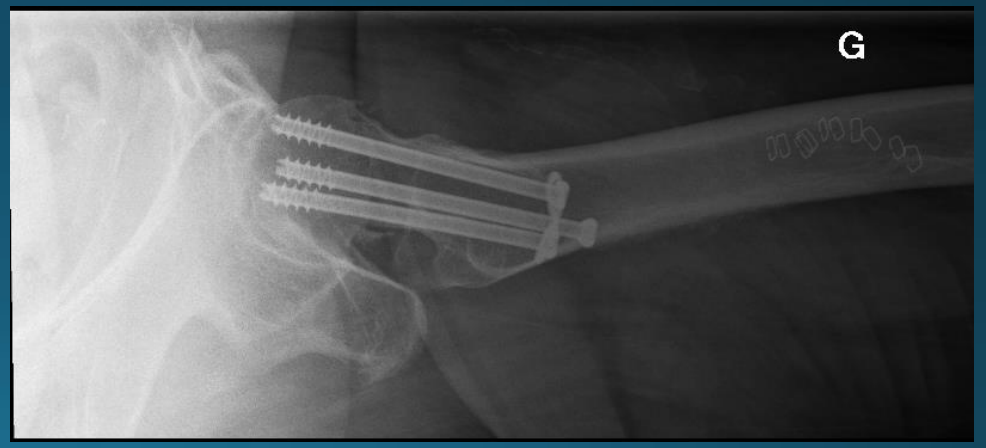




Fx fémur proximal

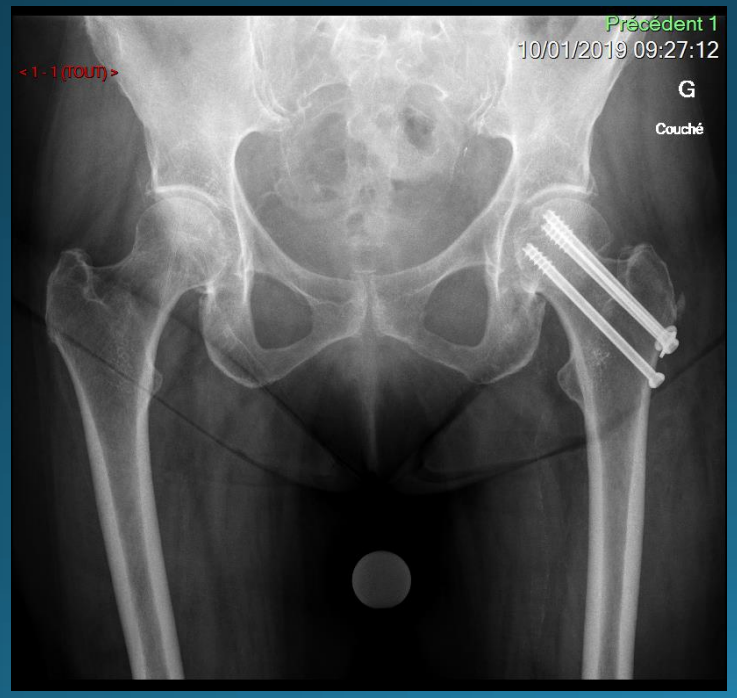
- Fx col fémoral
  - Stable: triple vissage
  - + : 'minimal' invasif; perte sanguine

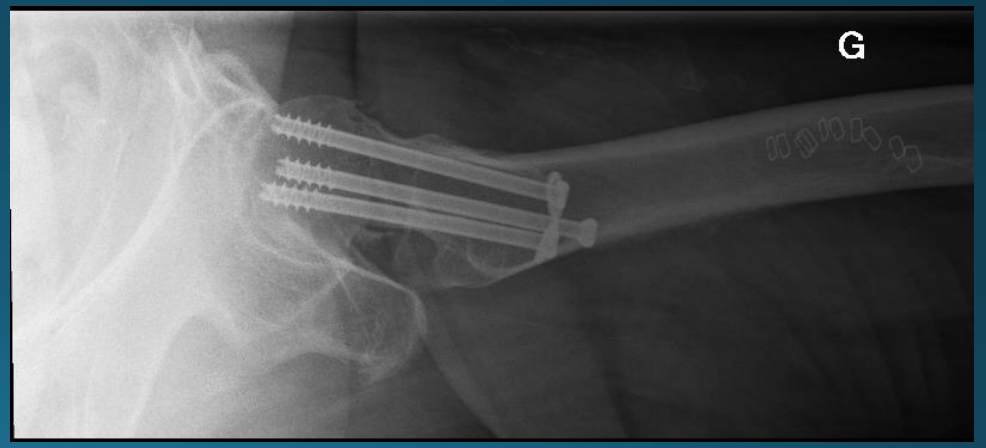




Fx fémur proximal

- Fx col fémoral
  - Stable: triple vissage
  - + : 'minimal' invasif; perte sanguine
  - - : nécrose tête; déplacement secondaire





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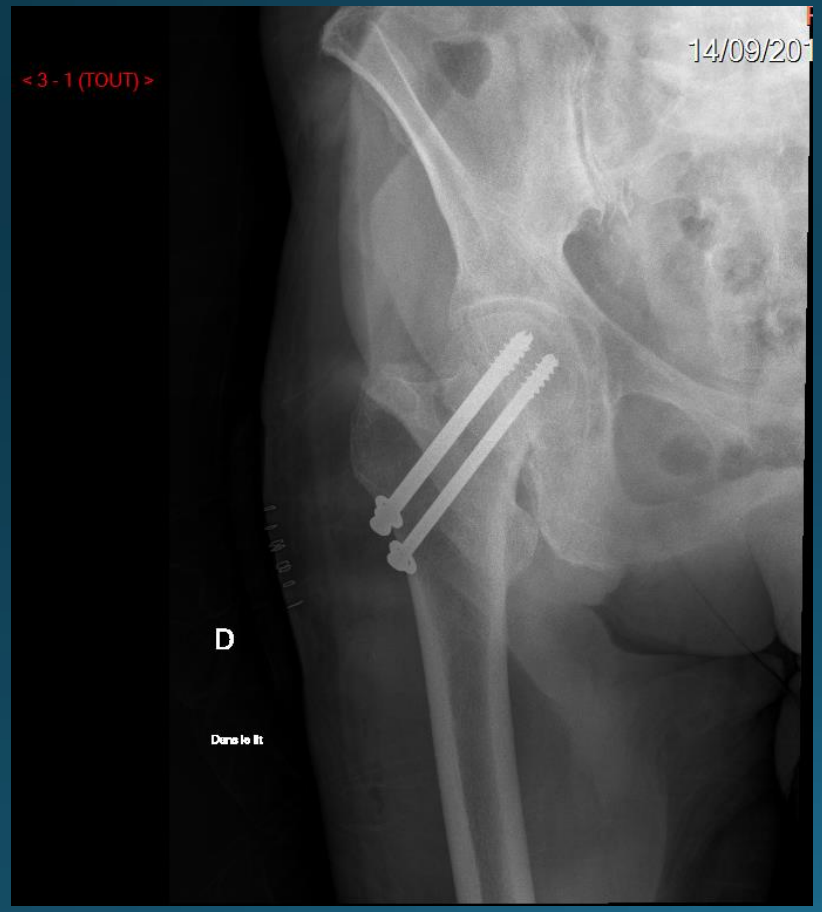

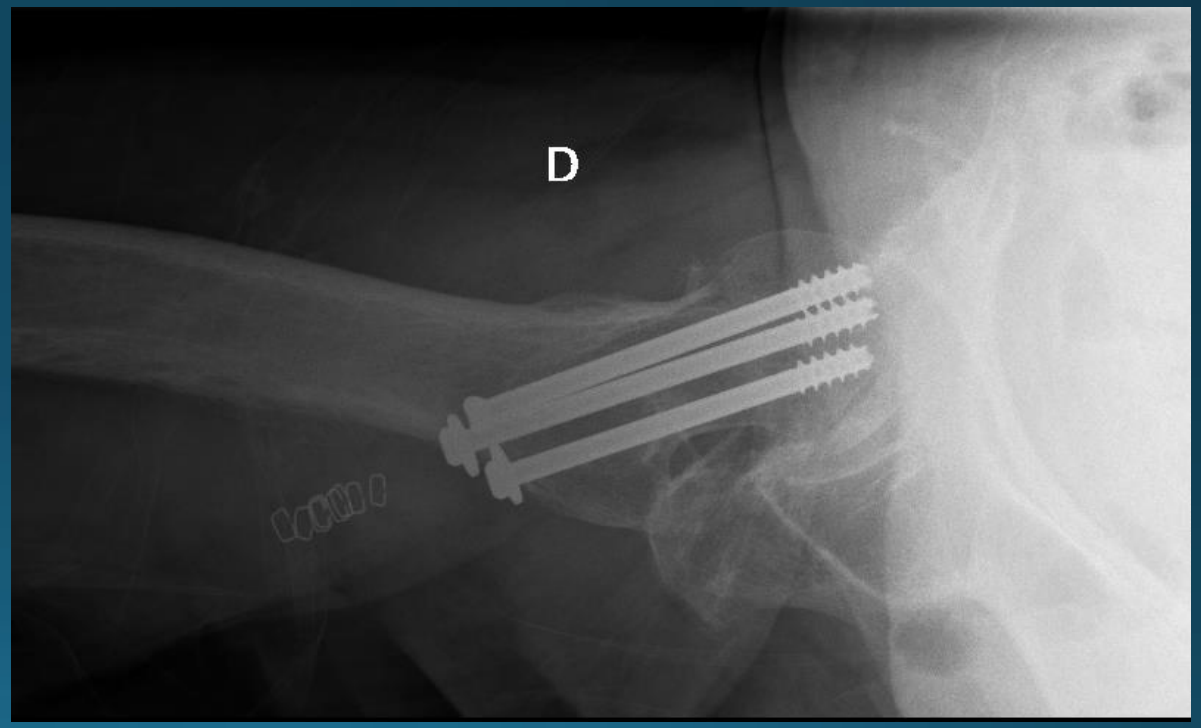

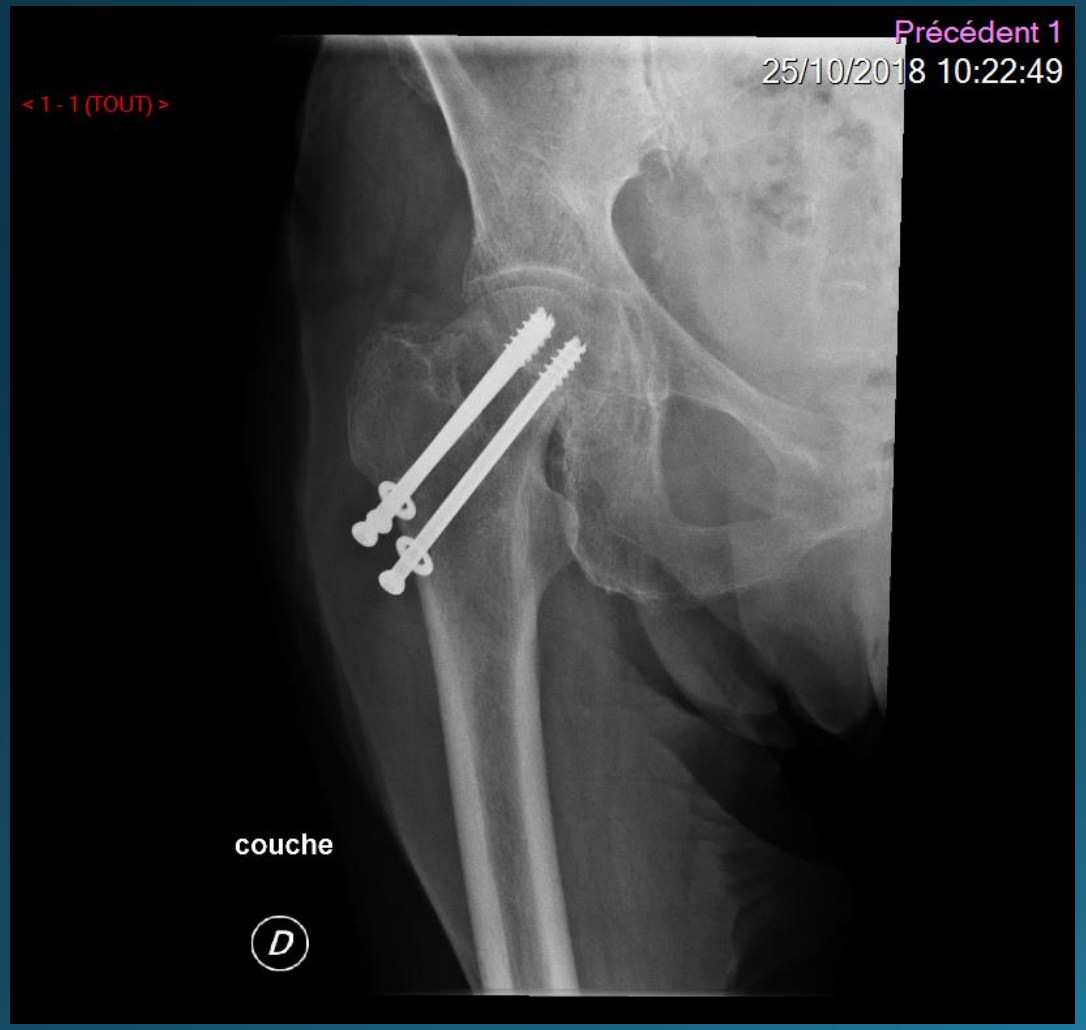
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couche
D


Précédent 1
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Précédent 1
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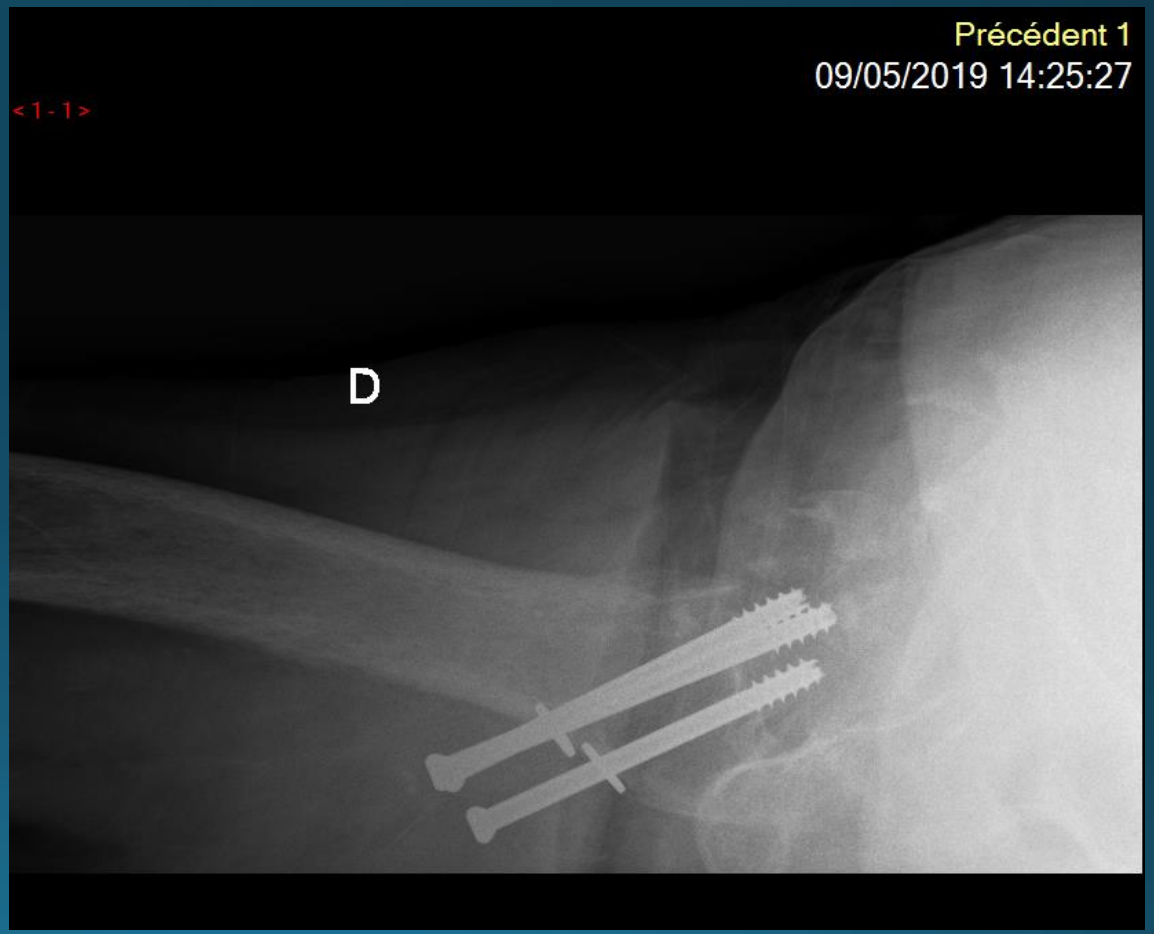
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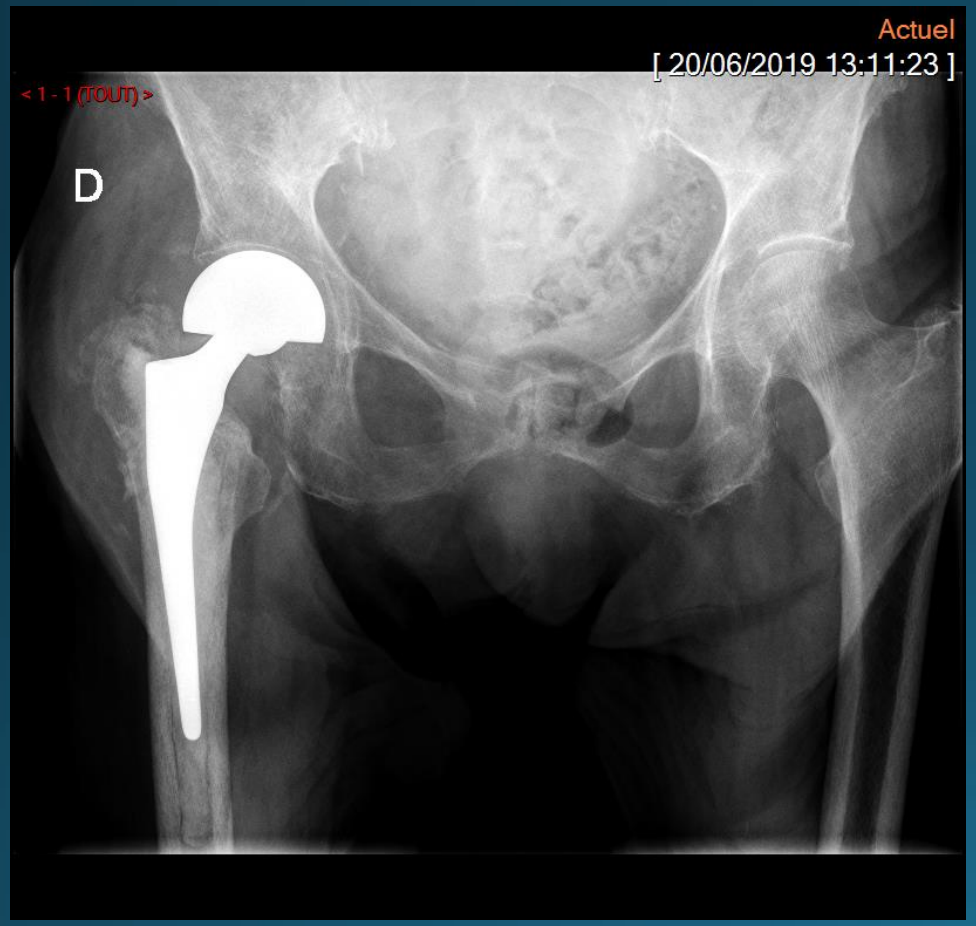
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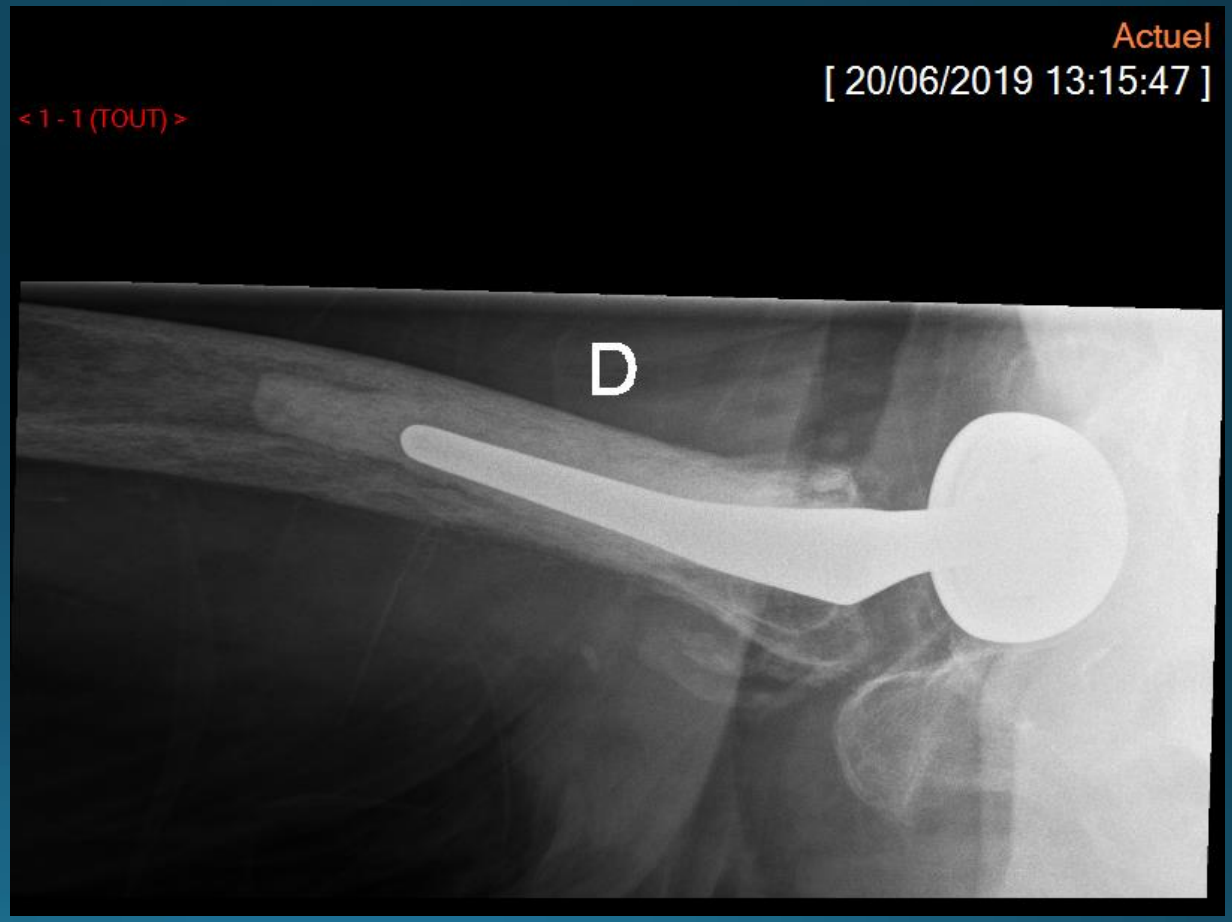
Actuel
[20/06/2019 13:15:47]
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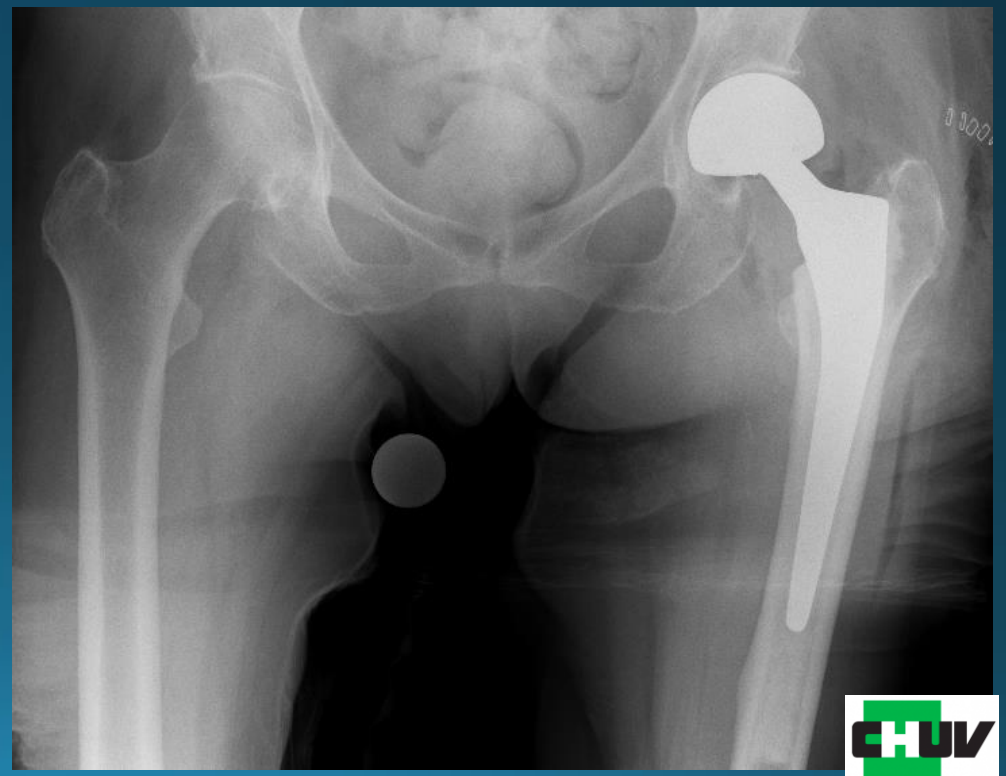
D

Fx fémur proximal

- Fx col fémoral
  - Stable
  - Instable

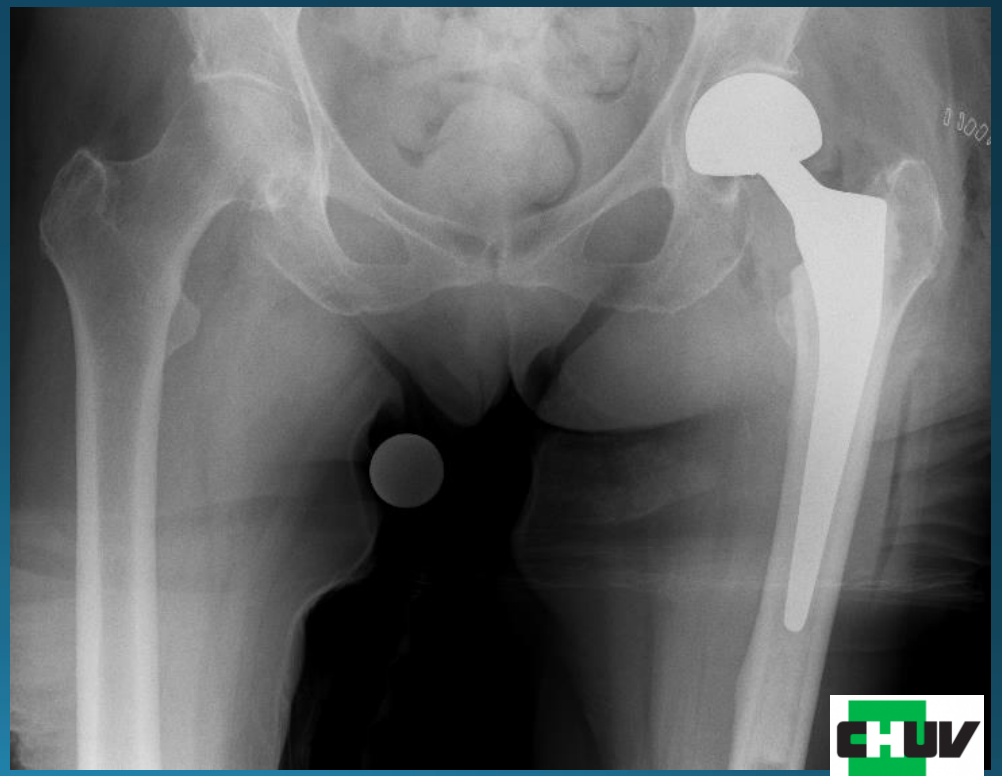
Fx fémur proximal

- Fx col fémoral
  - Instable
  - Hémi-arthroplastie vs prothèse totale



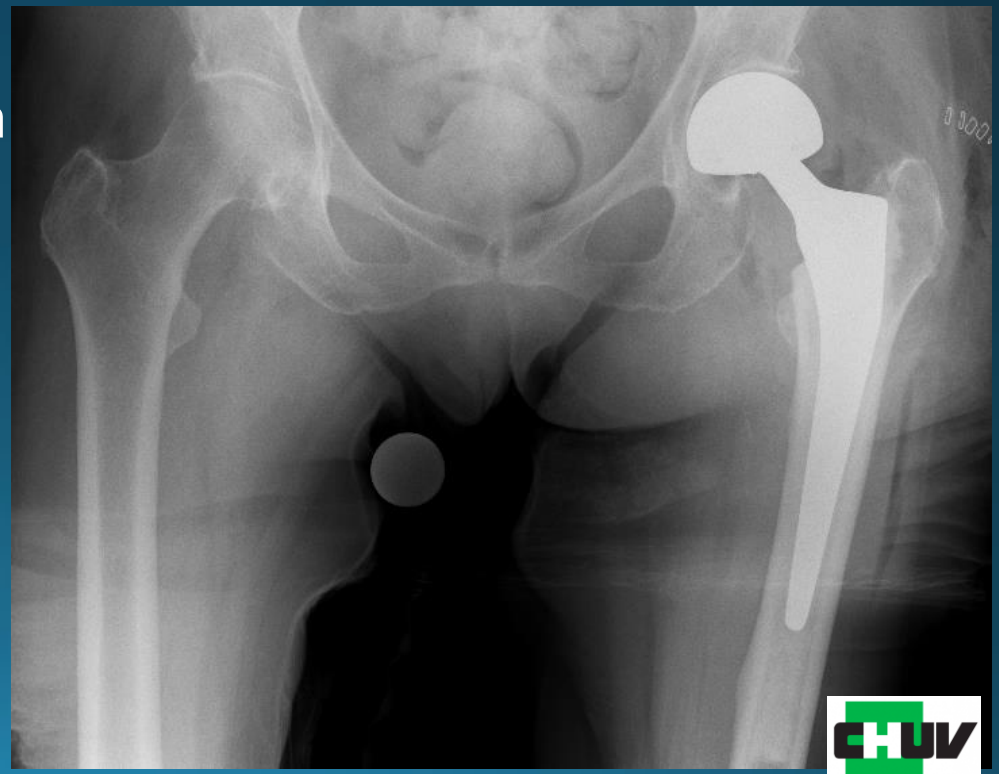
Fx fémur proximal

- Fx col fémoral
  - Instable
  - Hémi-arthroplastie vs prothèse totale
  - + : pas de nécrose tête ; pas de 'débricolage'



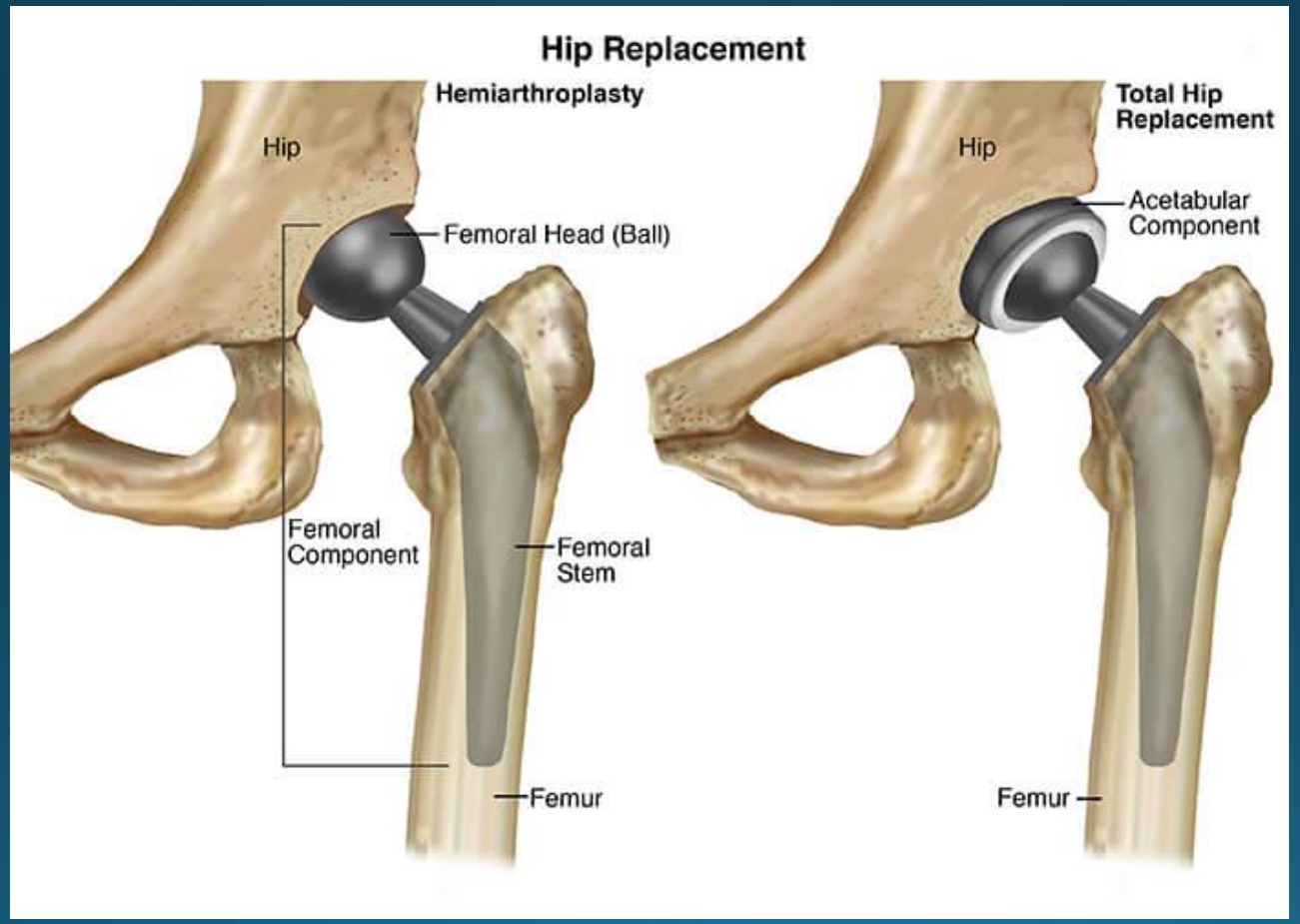
Fx fémur proximal

- Fx col fémoral
  - Instable
  - Hémi-arthroplastie vs prothèse totale
  - + : pas de nécrose tête ; pas de 'débricolage'
  - - : chirurgie plus 'lourde' ; luxation ; infection



Hemi-prothèse vs prothèse totale

Hemi vs totale



Fx fémur proximal

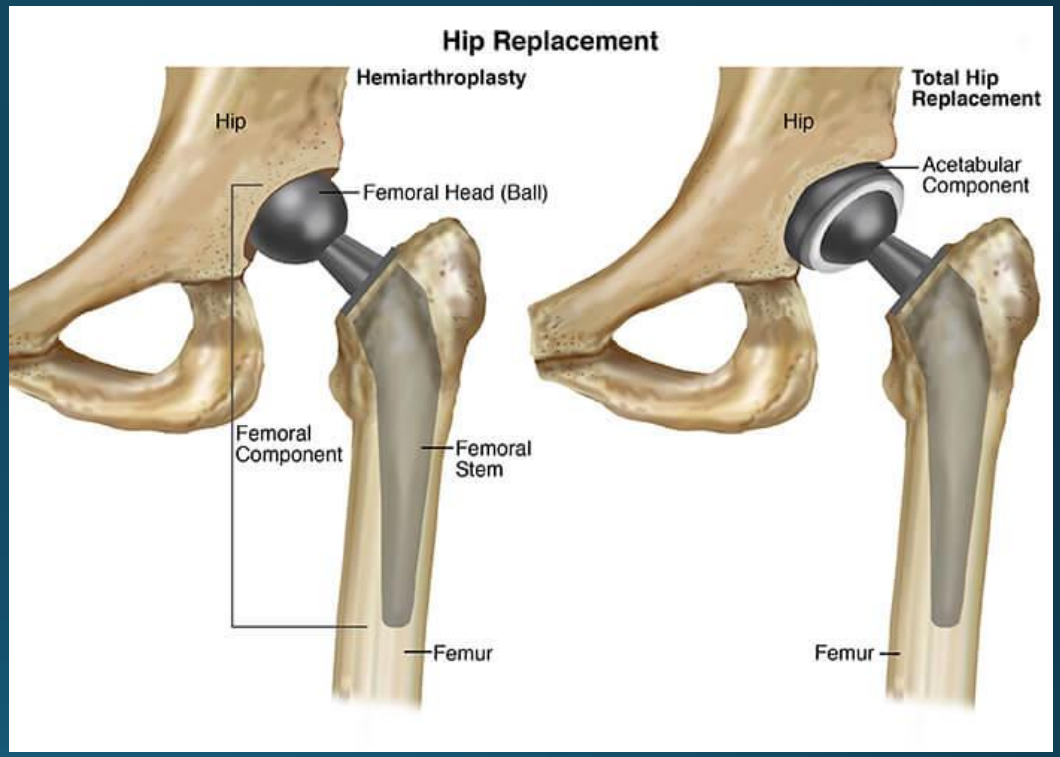
Hémi-arthroplastie

+

- Plus rapide/facile
- Moins de saignement

-

- Cotyloïdite
- Taux de luxation



Fx fémur proximal

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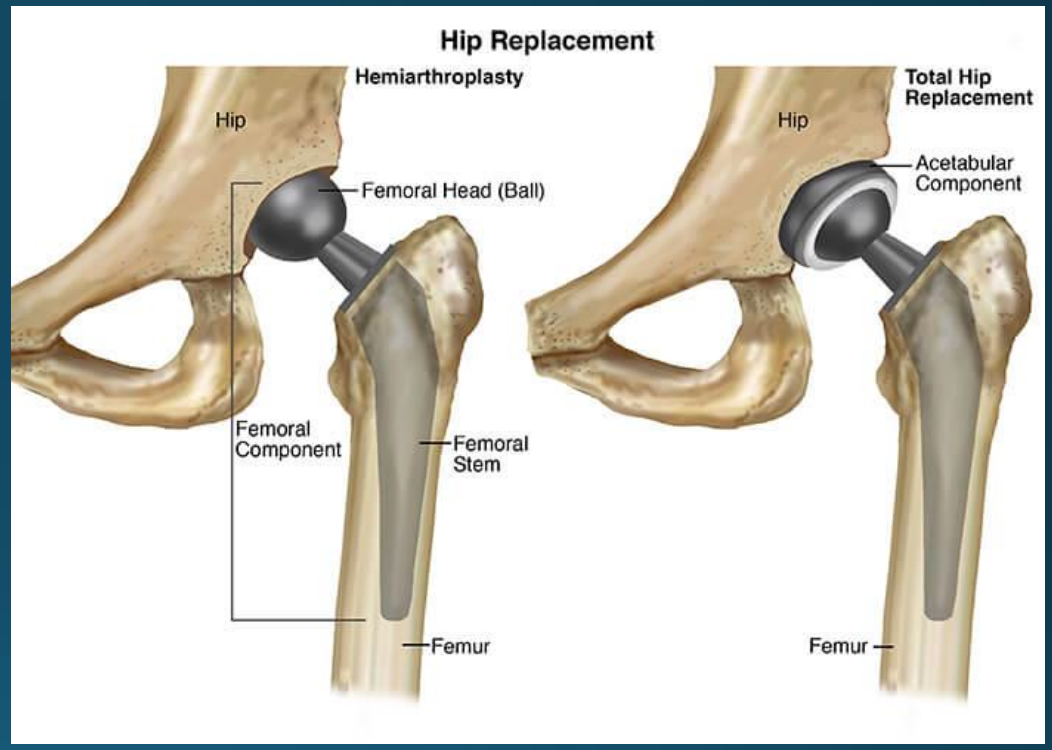


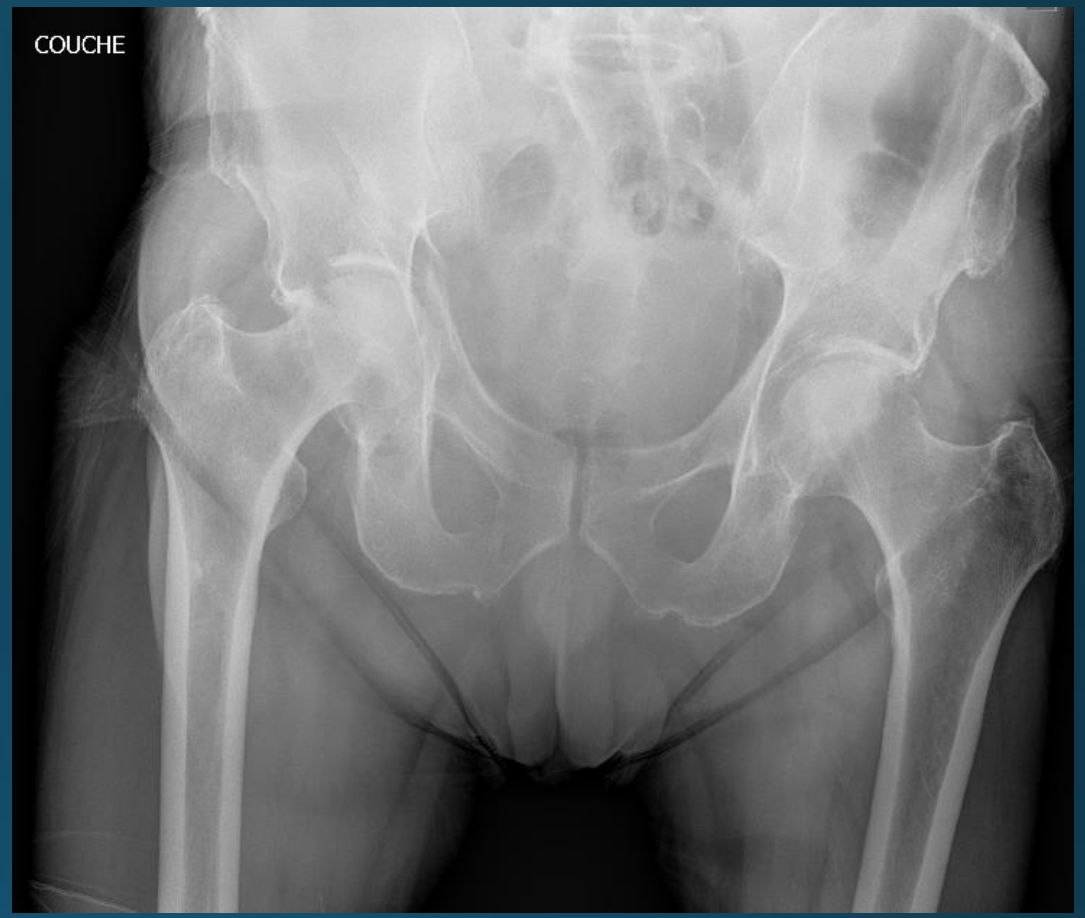
-> décision : arthrose préexistante, âge, mobilité (courses/ domicile vs EMS), …

Fx acetabulum

Fx acetabulum

- x 2.4 en 30 ans
  - Ferguson et al. JBJS 2010
- Mortalité à 1 an : 8 - 25%
  - O'Toole et al. JOT 2014
  - Bible et al. JOT 2014
  - Gary et al. JOT 2012

Fx acetabulum



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  - Ferguson et al. JBJS 2010
- Mortalité à 1 an : 8 - 25%
  - O'Toole et al. JOT 2014
  - Bible et al. JOT 2014
  - Gary et al. JOT 2012
- Chute direct sur hanche
  - Fx colonne antérieure, médialisation tête fémorale, impaction lame quadrilatère, impaction dôme postero-médial

Fx acetabulum

- Ttt conservateur :
  - Patient grabataire
  - Condition médicale suboptimale
  - Peu de déplacement
  - Pas en zone portante

Fx acetabulum

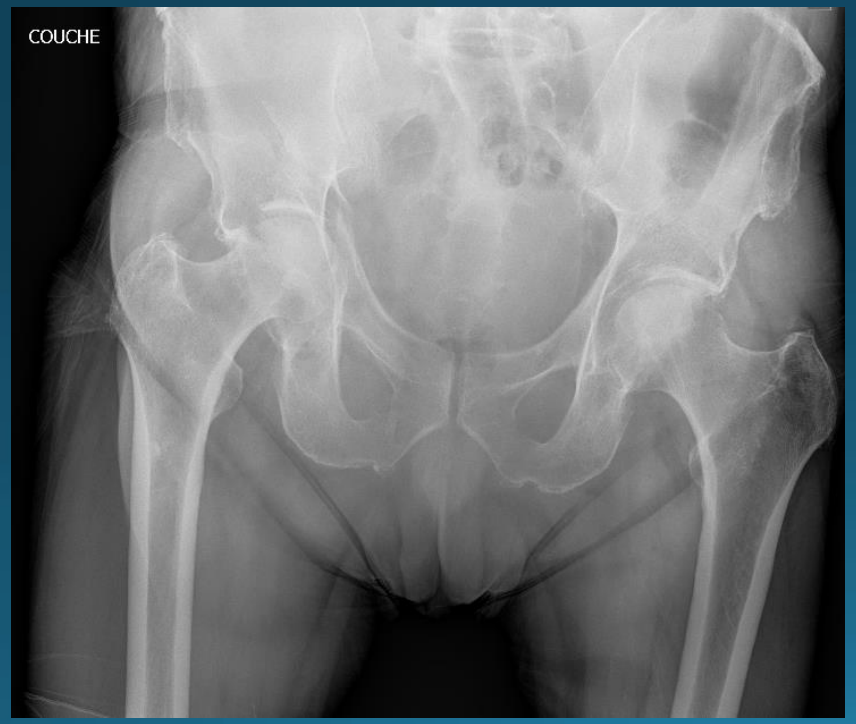
- Ttt conservateur
- Ttt chirurgical

Fx acetabulum

- Ttt conservateur
- Ttt chirurgical
  - Percutané

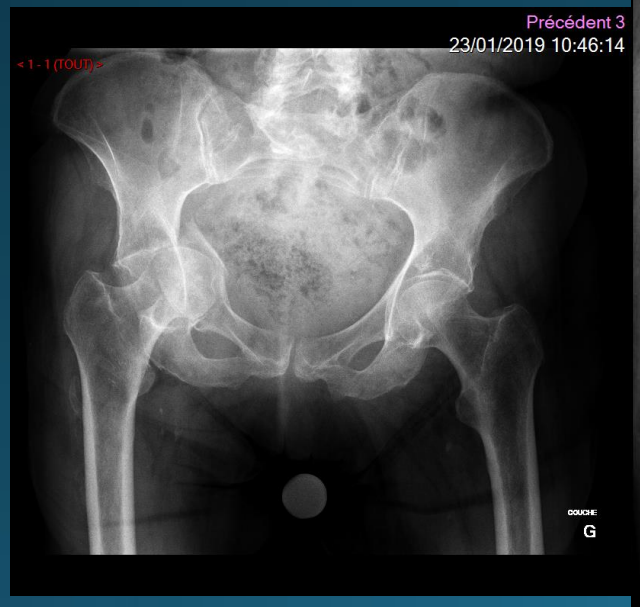
Fx acetabulum

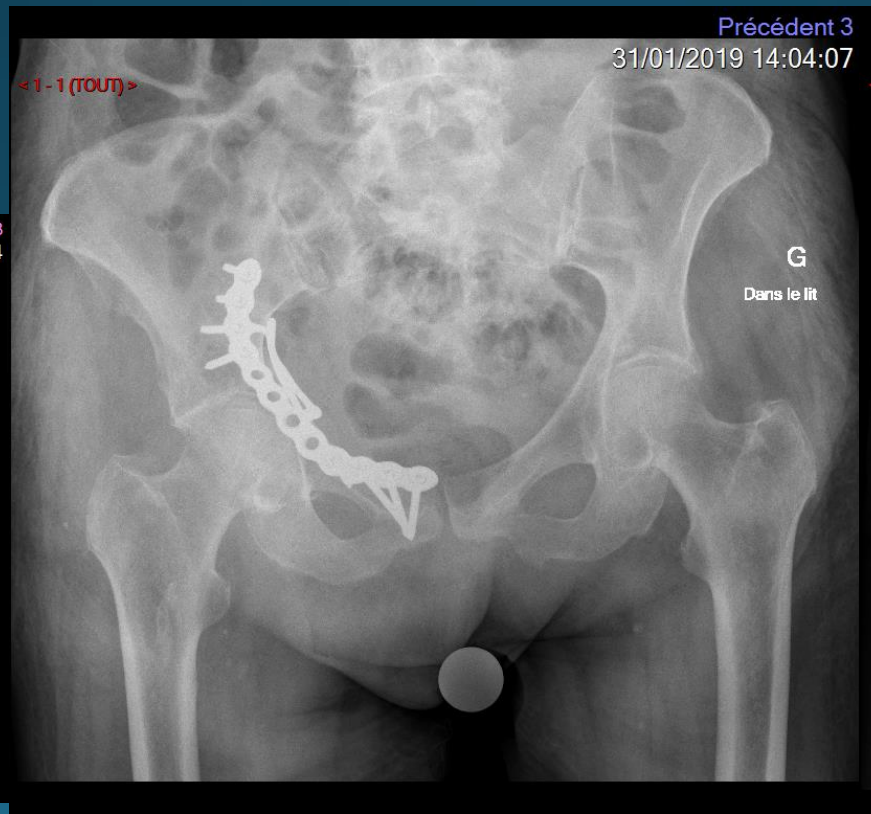
- Ttt conservateur
- Ttt chirurgical
  - Percutané
  - ORIF

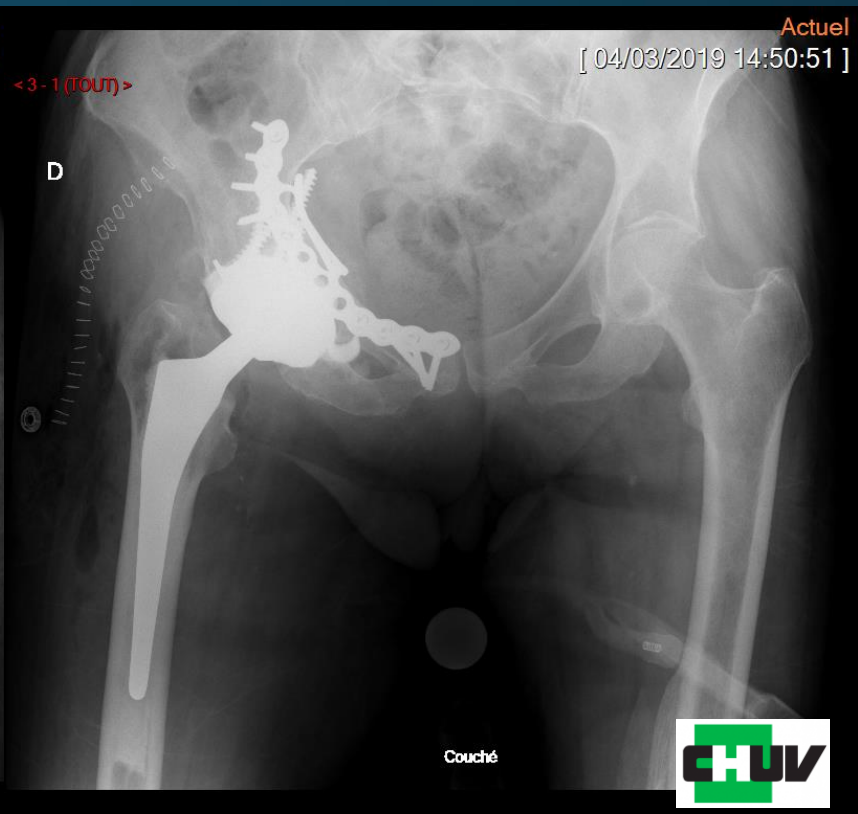


Fx acetabulum

- Ttt conservateur
- Ttt chirurgical
  - Percutané
  - ORIF
  - PTH différé

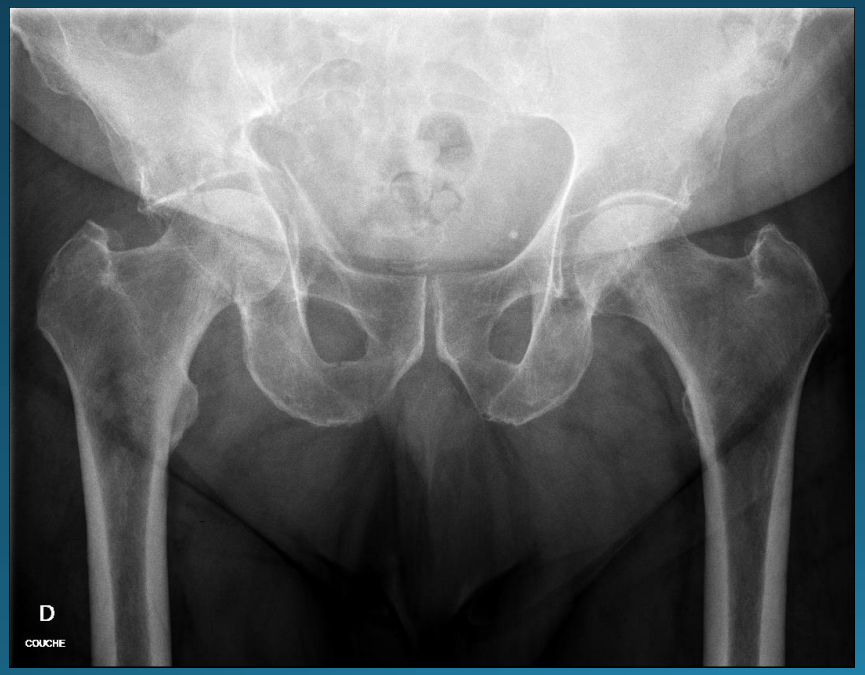


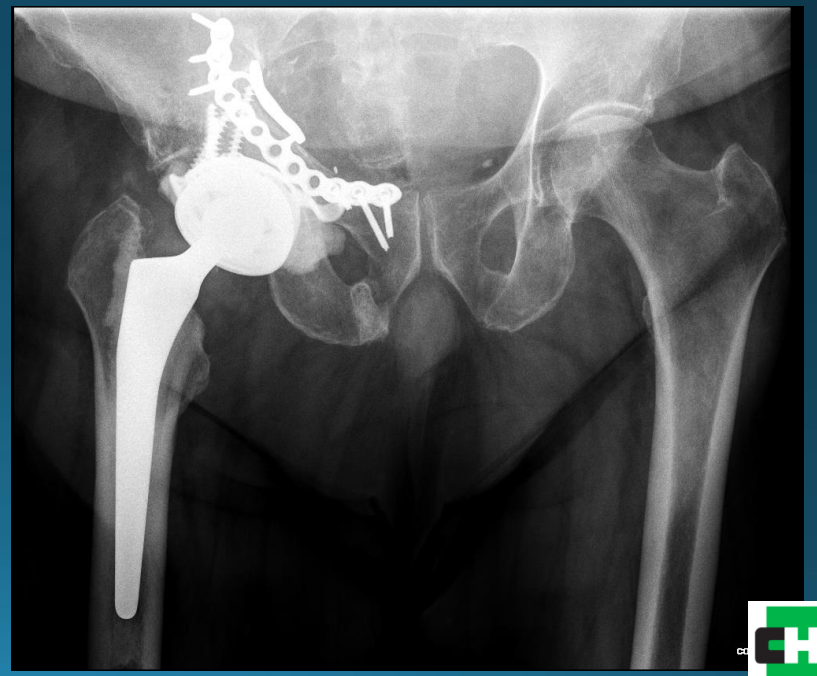




Fx acetabulum

- Ttt conservateur
- Ttt chirurgical
  - Percutané
  - ORIF
  - PTH différé
  - PTH aigu





Inability of Older Adult Patients with Hip Fracture to Maintain Postoperative Weight-Bearing Restrictions

Christian Kammerlander, MD, Daniel Pfeufer, MD, Leonard Adolf Lisitano, Stefan Mehaffey, Wolfgang Böcker, MD, and Carl Neuerburg, MD

Investigation performed at the Department of General, Trauma and Reconstructive Surgery, Munich University Hospital LMU, Munich, Germany

Methods: An insole force sensor was used to measure true postoperative weight-bearing by patients ≥75 years of age treated for hip fracture compared with patients 18 to 40 years of age treated for ankle fracture. Both groups were instructed to maintain partial weight-bearing on the affected limb (≤20 kg) postoperatively. Following standardized physiotherapy training, gait analysis was performed.

Results: None of the patients in the elderly test group were able to comply with the weight-bearing restriction as recommended. We found that 69% (11 of 16) of the patients exceeded the specified load by more than twofold, whereas significantly more patients in the younger control group (>75% [14 of 18]) achieved almost the entire weight-bearing restriction ($p < 0.001$). Only 1 of the elderly patients was able to comply with the predetermined weight-bearing restriction, and only for a short period of time. In comparison, significantly more patients in the control group (89% [16 of 18]; $p < 0.001$) maintained the partial load for nearly the entire time during gait analysis.

Conclusions: Elderly patients seem to be unable to maintain weight-bearing restrictions. As early mobilization of geriatric trauma patients is an important element for a successful rehabilitation, the directive of postoperative partial weight-bearing for these patients should be abandoned.

Level of Evidence: Therapeutic Level II. See Instructions for Authors for a complete description of levels of evidence.

Methods: An insole force sensor was used to measure true postoperative weight-bearing by patients ≥75 years of age treated for hip fracture compared with patients 18 to 40 years of age treated for ankle fracture. Both groups were instructed to maintain partial weight-bearing on the affected limb (≤20 kg) postoperatively. Following standardized physiotherapy training, gait analysis was performed.

Results: None of the patients in the elderly test group were able to comply with the weight-bearing restriction as recommended. We found that 69% (11 of 16) of the patients exceeded the specified load by more than twofold, whereas significantly more patients in the younger control group (>75% [14 of 18]) achieved almost the entire weight-bearing restriction ($p < 0.001$). Only 1 of the elderly patients was able to comply with the predetermined weight-bearing restriction, and only for a short period of time. In comparison, significantly more patients in the control group (89% [16 of 18]; $p < 0.001$) maintained the partial load for nearly the entire time during gait analysis.

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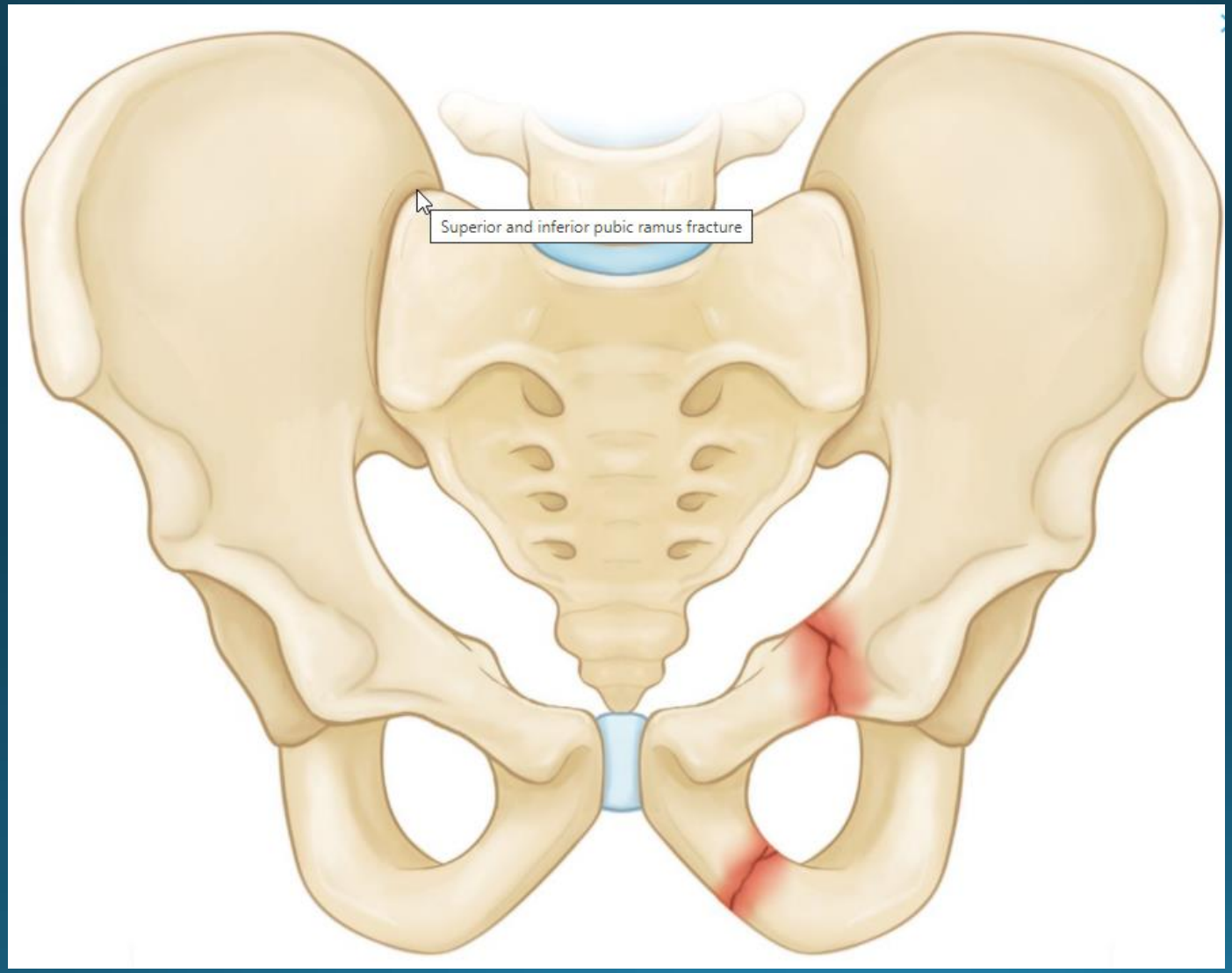
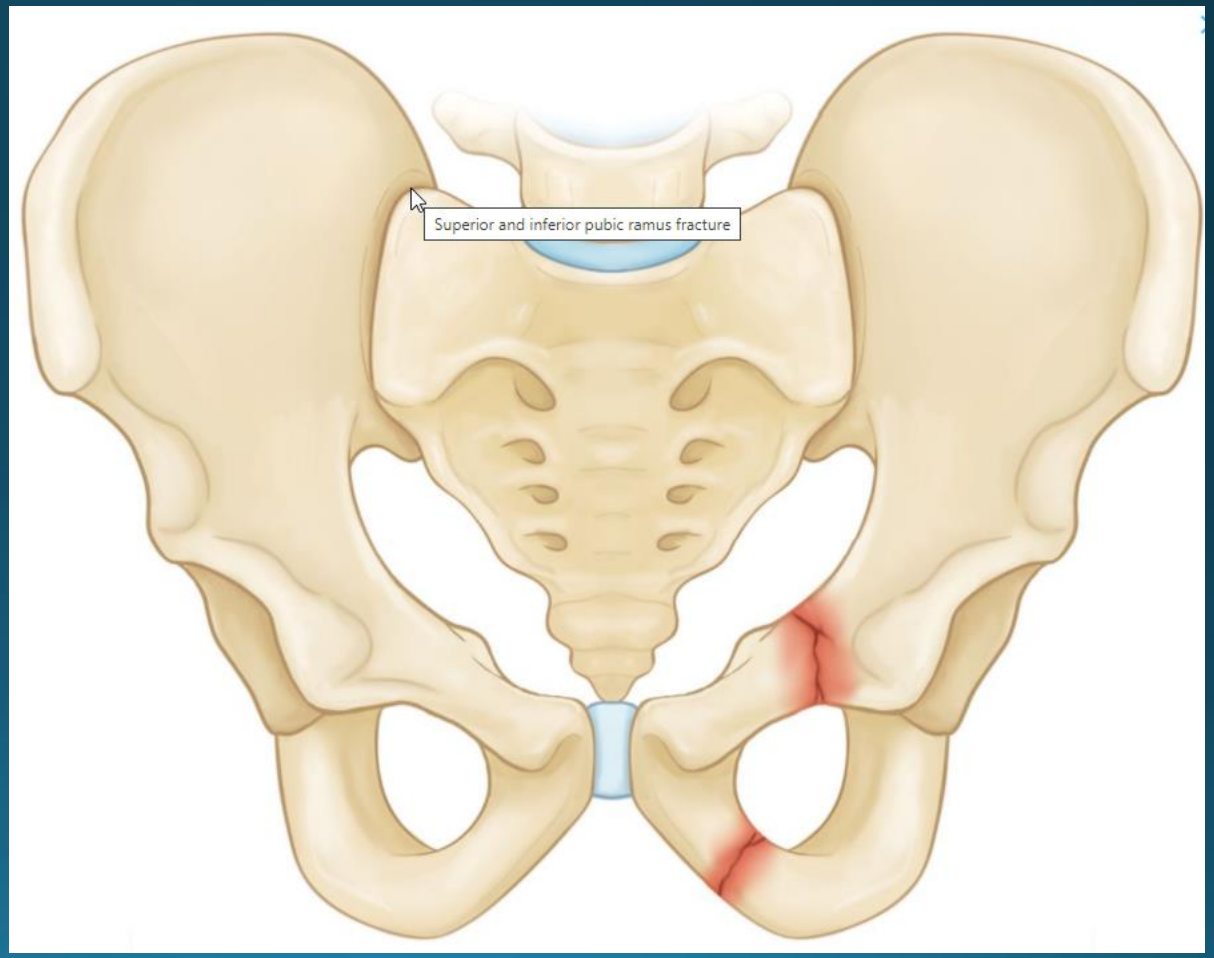
- -> montage solide !

Fx branches



Fx branches

- Ttt conservateur
- Charge selon douleur

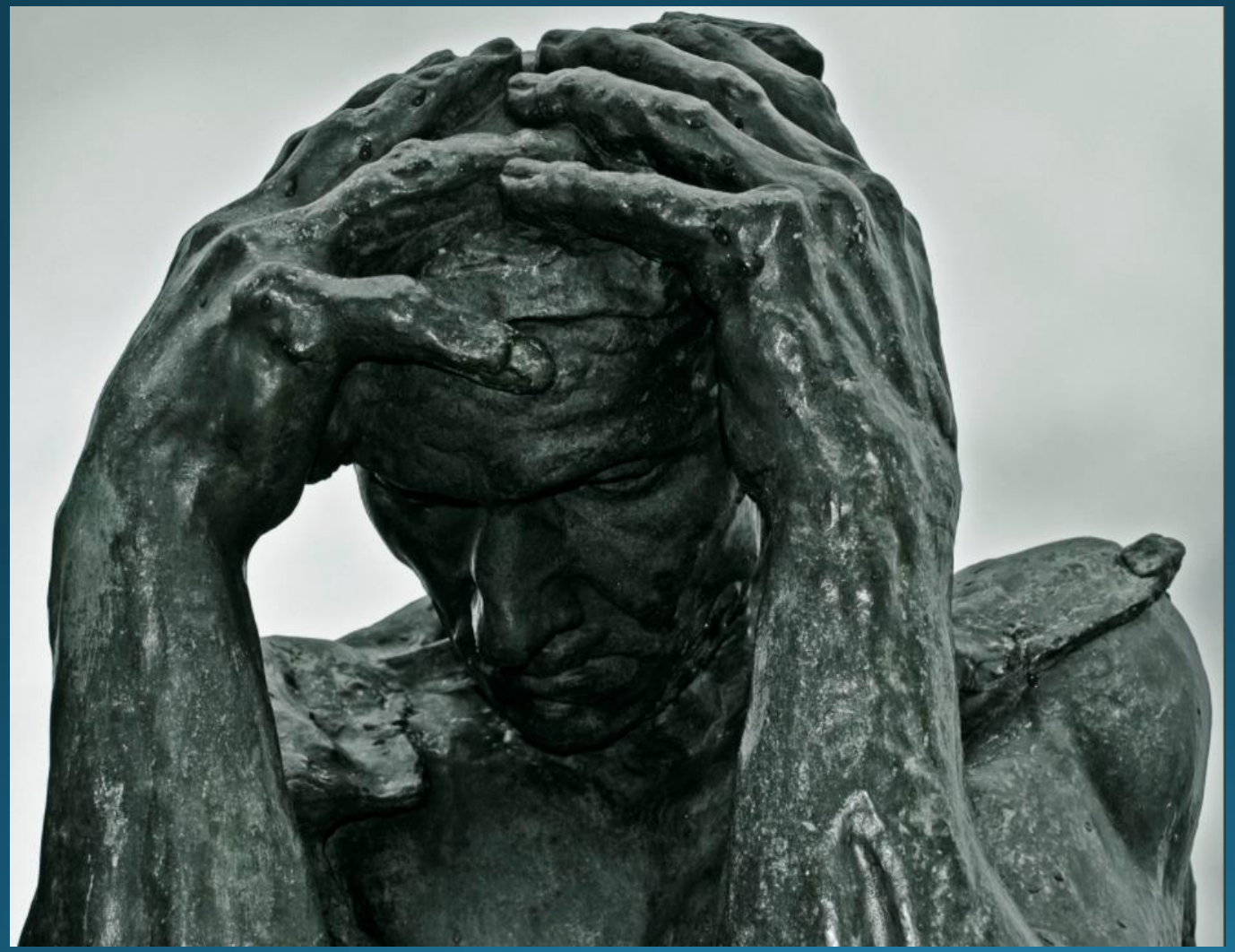


Fx bassin / hanche

- But :
  - Mobilisation rapide
  - Contrôle des douleurs
  - Retour fonction préopératoire

Plan

- Situation actuelle de la traumatologie chez le patient âgé ?
- Quels sont les problèmes rencontrés lors de la prise en charge ?
- Comment le spécialiste et généraliste peuvent travailler ensemble ?



Problèmes rencontrés ?

1. Morbidité / Mortalité
2. Delirium
3. Anticoagulation
4. Nutrition

1. Morbidité / Mortalité

- Fx hanche: mortalité 6% intra-hospitalière – 30% à 1 an
- IFFP: Itinéraire de la fracture du fémur proximal
  - CHUV: +/- 230 patients par an
    - 60% -> CTR

1. Morbidité / Mortalité

- Fx hanche: mortalité 6% intra-hospitalière – 30% à 1 an
- IFFP: Itinéraire de la fracture du fémur proximal
  - CHUV: +/- 230 patients par an
  - But:
    - Meilleure prise en charge
    - ECA ↓
    - Poly-médication ↓
    - Mortalité ↓
    - Durée de séjour ↓

1. Morbidité / Mortalité

- Fx hanche: mortalité 6% intra-hospitalière – 30% à 1 an
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- Unité Ortho-gériatrique

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- Unité Ortho-gériatrique
  - Orthopédiste
  - Gériatre
  - Physiothérapeute
  - Ergothérapeute
  - Psycho-gériatrie
  - Nutritionniste
  - Assistante sociale

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2. Delirium

- Jusqu'à 50% des patients gériatriques

2. Delirium

- Jusqu'à 50% des patients gériatriques
- Facteurs risques:
  - Démence
  - Poly-médication / surdosage
    - Narcotiques
    - Opiacés
    - …
  - Déshydratation
  - Douleur
  - Contentions – cathéters – sonde urinaire
  - Soins intensifs / continus (lumière/bruit constant) – privation sommeil
  - Stress – anxiété

3. Anticoagulation

- 'Anciens' médicaments
  - Clexane/héparine
  - Sintrom
    - INR supra-thérapeutique
    - Vit K (Konakion)
  - ....

3. Anticoagulation

- ‘Nouveaux’ médicaments
  - Xarelto
  - Eliquis
  - ….

3. Anticoagulation

- Retard de prise en charge chirurgicale
  - Risque de saignement
  - Rachianesthésie risquée

3. Anticoagulation

- Retard de prise en charge chirurgicale
- Pro/contra chirurgie en urgence
  - Mobilisation précoce, problème pulmonaire ↓, escarre ↓

  vs
  - Saignement peropératoire, hématome
- Mortalité ↑ car délais opératoire ↑

Collin et al., OTSR 2020

4. Nutrition

- Dénutrition
  - Catabolisme
  - Risque infectieux
  - Rééducation plus tardive
  - Durée séjour/coûts ↑

Robinson et al., Peer J 2015
Kaiser et al., J Am Geriatr Soc 2010

4. Nutrition

- Dénutrition
- Partie du projet ERAS (Enhanced Recovery After Surgery)
  - A jeun le moins possible
  - Pas de drains
  - Bonne anesthésie
  - Bonne nutrition postopératoire
  - Mobilisation rapide
  - Antidouleurs sur mesure

Plan

- Situation actuelle de la traumatologie chez le patient âgé ?
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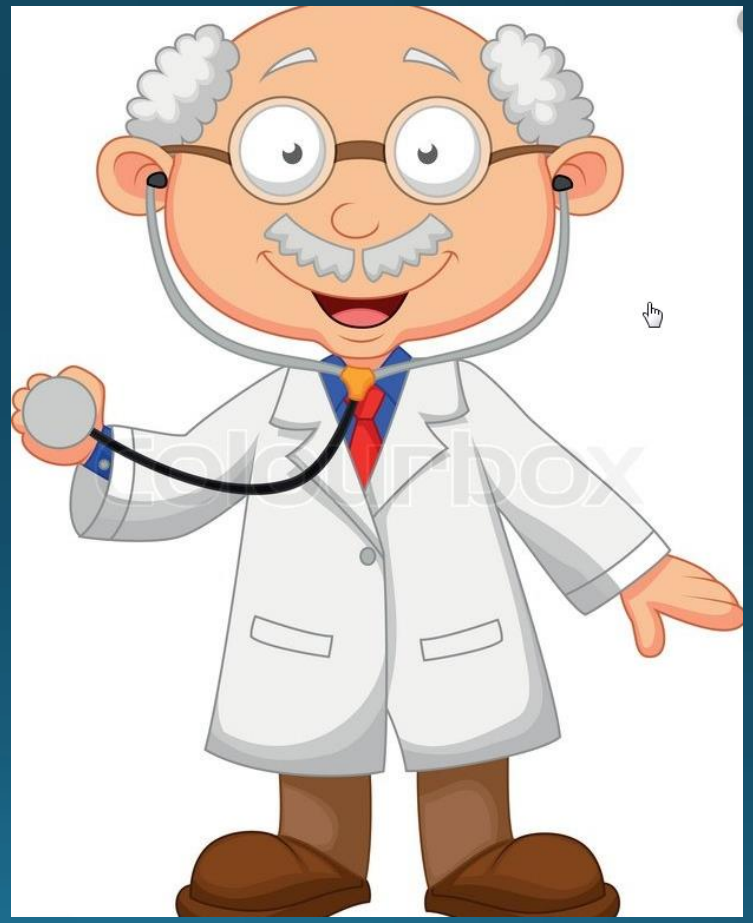
- Comment le spécialiste et généraliste peuvent travailler ensemble ?

Entraide orthopédiste - généraliste



Entraide orthopédiste - généraliste

- Traumatologie: 'préparation' du patient rarement possible
  - Nutrition, polymédication (narcotiques, antidiabétiques), anticoagulation, …

Entraide orthopédiste - généraliste

- Plutôt pour l'orthopédie élective
- Optimisation du patient

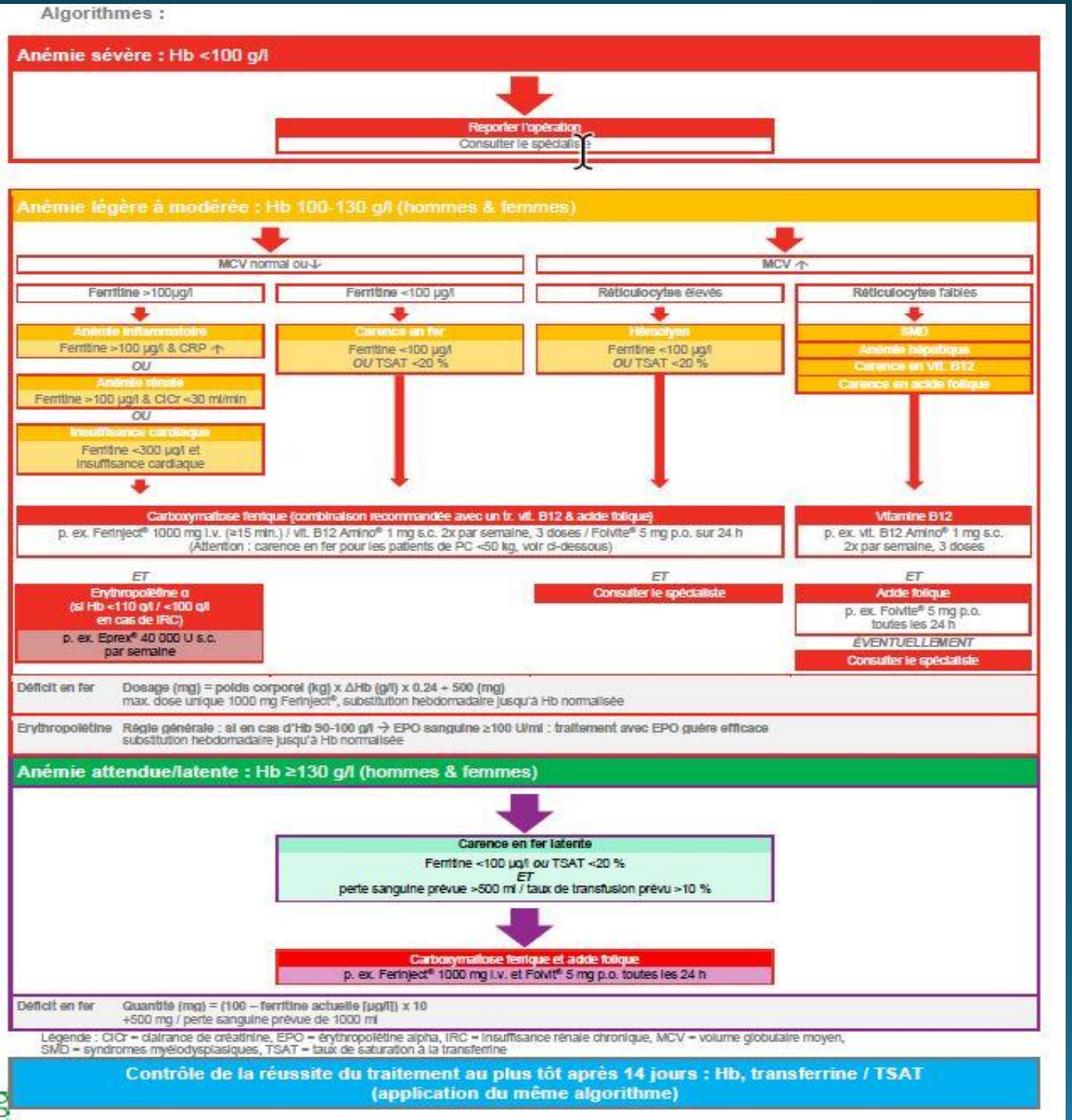
Entraide orthopédiste - généraliste

- Plutôt pour l'orthopédie élective
- Optimisation du patient:
  - Correction de l'anémie préopératoire (blood management)
    - Mussalam et al. Lancet 2011: anémie préop = ↑ de
      - Transfusion
      - Mortalité
      - Insuffisance rénale
      - Infection

Entraide orthopédiste - généraliste

- Plutôt pour l'orthopédie élective
- Optimisation du patient:
  - Correction de l'anémie préopératoire (blood management)
    - Mussalam et al. Lancet 2011
    - Algorithme CHUV:
      - Hb <100g/l : repousser opération : consultation généraliste / hématologue
      - Hb 100 – 130 g/l : selon MCV : ferritine vs vit B12 vs acide folique vs EPO
      - Hb > 130 g/l + anémie attendue : ferritine

Algorithmes :



Entraide orthopédiste - généraliste

- Plutôt pour l'orthopédie élective
- Optimisation du patient:
  - Correction de l'anémie préopératoire (blood management)
    - Mussalam et al. Lancet 2011: anémie préop = ↑ de
  - Nutrition / diabète
  - Tabagisme
  - Ttt habituel (immunosuppresseur, corticothérapie, …)

Entraide orthopédiste - généraliste

- ERAS : Enhanced Recovery After Surgery
  RAAC: Réhabilitation Améliorée Après Chirurgie

Entraide orthopédiste - généraliste

- ERAS : initialement en chirurgie viscérale

  -> étendu à d'autres spécialisations

- Coordination des tous les acteurs du parcours clinique

  -> médecin traitant essentiel

Entraide orthopédiste - généraliste

- ERAS pour PTH / PTG
  - Éducation préopératoire (Evidence : low ; recommendation : strong)
  - Optimisation préopératoire
    - Stop tabac (High ; Strong)
    - Stop OH (Low ; Strong)
    - Anémie (High ; Strong)
    - Physiothérapie (Moderate ; Strong)
  - Anesthésie adaptée
  - Peropératoire
    - Acide tranexamique (High ; Strong)
    - Pas de drain systématique (Moderate ; Strong)
  - Alimentation rapide postopératoire (Strong; Strong)

Wainwright et al., Acta Orthopaedica 2020

1	Preoperative information, education and counseling	Patients should routinely receive preoperative education	Low	Strong
2	Preoperative optimization	4 weeks' or more smoking cessation is recommended prior to surgery. Alcohol cessation programs are recommended for alcohol abusers Anemia should be actively identified, investigated, and corrected preoperatively	Smoking: High Alcohol: Low High	Strong Strong
3	Preoperative fasting	Clear fluids should be allowed up to 2 h and solids up to 6 h hours prior to induction of anesthesia	Moderate	Strong
4	Standard anesthetic protocol	General anesthesia and neuraxial techniques may both be used as part of multimodal anesthetic regimes	General anesthesia: moderate neuraxial techniques: Moderate	Strong
5	Use of local anesthetics for infiltration analgesia and nerve blocks	Within a multimodal opioid-sparing analgesic regimen, the routine use of LIA is recommended for knee replacement but not for hip replacement Nerve block techniques have not shown clinical superiority over LIA	LIA in knee replacement: High	Strong
6	Postoperative nausea and vomiting	Patients should be screened for and given multimodal PONV prophylaxis and treatment	Moderate	Strong
7	Prevention of perioperative blood loss	Tranexamic acid is recommended to reduce perioperative blood loss and the requirement for postoperative allogenic blood transfusion	High	Strong
8	Perioperative oral analgesia	A multimodal opioid-sparing approach to analgesia should be adopted The routine use of paracetamol and NSAIDs is recommended for patients without contraindications	Paracetamol: Moderate NSAIDS: High	Strong Strong
9	Maintaining normothermia	Normal body temperature should be maintained peri- and postoperatively	High	Strong
10	Antimicrobial prophylaxis	Patients should receive systemic antimicrobial prophylaxis	Moderate	Strong
11	Antithrombotic prophylaxis treatment	Patients are at increased risk of VTE and should undergo pharmacologic and mechanical prophylaxis in line with local policy	Moderate	Strong
12	Perioperative surgical factors	There is no conclusive evidence that choice of surgical approach accelerates the achievement of discharge criteria Therefore no recommendation can be given	High	Strong
13	Perioperative fluid management	Fluid balance should be maintained to avoid over- and under-hydration	Moderate	Strong
14	Postoperative nutritional care	An early return to normal diet should be promoted	Low	Strong
15	Early mobilization	Patients should be mobilized as early as they are able in order to facilitate early achievement of discharge criteria	Moderate	Strong
16	Criteria-based discharge	Team-based functional discharge criteria should be used to facilitate patient discharge directly to their home	Low	Strong
17	Continuous improvement and audit	Routine internal and/or external audit of process measures, clinical outcomes, cost effectiveness, patient satisfaction/experience, and changes to the pathway is recommended	Low	Strong

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Réhabilitation améliorée après chirurgie prothétique

Dre HAFIZE HEUTSCHI-ÖZTÜRK[a] et Dr JULIEN STANOVICI[a]

Rev Med Suisse 2020; 16: xx

Conclusion

- Fx fémur proximal:
  - Mortalité ↑
  - Multidisciplinarité
- Problèmes:
  - Patients fragiles
  - Delirium
  - Anticoagulation
  - Nutrition
- Préparation opératoire:
  - OH, tabac, anémie
  - Albuminémie, INR, nécessité anticoagulants, …


"That's all Folks!"