

#### **Original Investigation**

# Surgical vs Nonsurgical Treatment of Adults With Displaced Fractures of the Proximal Humerus The PROFHER Randomized Clinical Trial

Amar Rangan, FRCS(Tr&Orth); Helen Handoll, DPhil; Stephen Brealey, PhD; Laura Jefferson, PhD; Ada Keding, MSc; Belen Corbacho Martin, MSc; Lorna Goodchild, MSc; Ling-Hsiang Chuang, PhD; Catherine Hewitt, PhD; David Torgerson, PhD; for the PROFHER Trial Collaborators

### **Journal Club 02.06.2020**

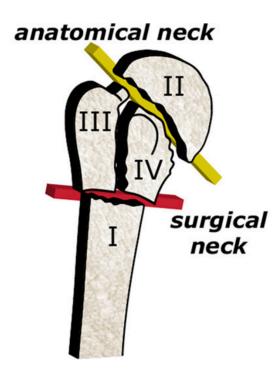
Dr. Andrea Barbato – Fellow en chirurgie de l'épaule

Formateur: Dr. Steve Brenn





- 5-6% des fractures du patient adulte (la plupart en sujets > 65 ans)
- ~ 77% intéressent le col chirurgical, ~51% sont déplacées
- Classification de Neer 1970
   (1- 4 parts si déplacement > 1cm ou 45°)
- Depuis l'introduction de plaques dédiées 2005, la tendance chirurgicale augmente





#### PROFHER CLINICAL TRIAL

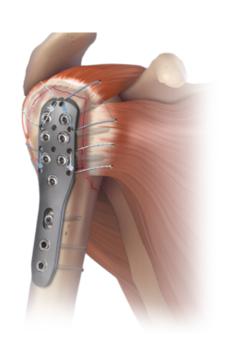
## (PROXIMAL FRACTURES OF THE HUMERUS EVALUATION BY RANDOMIZATION)

- 2015 sur le Journal of the American Medical Association (JAMA)
- 250 patients randomisés avec fractures humérus proximale déplacée, 32 hôpitaux
- Traitement fonctionnel en écharpe VS chirurgie (plaque, clou ou prothèse)
- Oxford Shoulder Score (OSS) et Short-Form 12 (SF-12) à 6, 12, 24 mois
- Outcomes : scores, mortalité, complications, ré-intervention
- Pas de suivi radiologique
- Exclusion : fr pathologiques, luxation associée, fr ouvertes, comorbidités, déficits cognitifs





- Age moyen 66 ans (24-92)
- 77% femmes
- Classification selon Neer:
  - 18 fr. 1-part (9 Op 9 nonOp)
  - 128 fr 2-parts (65 Op 63 nonOp)
  - 93 fr 3-parts (46 Op 47 nonOp)
  - 11 fr 4-parts (5 Op 6 nonOp)
- ~ 10,4 jours entre accident et chirurgie (1-33)
- Op: 90 (82,6%) plaques, 10 prothèse partielle, 4 clous, 5 autres
- Conservateur: 82 (65,6%) écharpe, 35 (28,0%) sling
- Follow-up 2 ans : 114 Op 117 nonOp







# PROFHER CLINICAL TRIAL RÉSULTATS – COMPLICATIONS



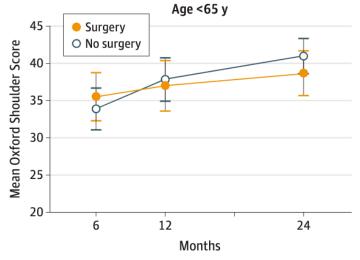
- Pas de différences OSS à 2 ans
- Pas de différences SF-12 à 2 ans
- N. complications comparable (30 vs 23)
- N. ré-interventions comparable (11 vs 11)
- Raideur comparable (6 vs 5)
- AVN comparable (4 vs 1)

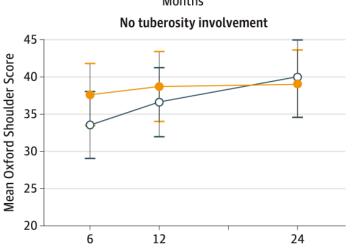


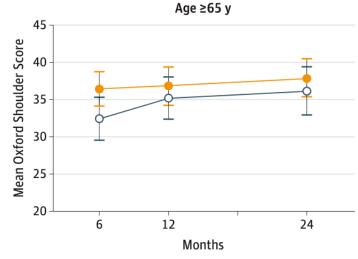


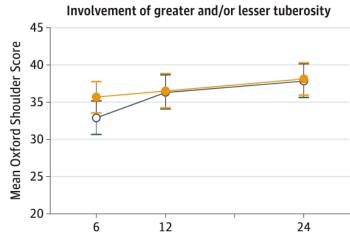
### PROFHER CLINICAL TRIAL RÉSULTATS

#### Comparison by age group









in surgical group vs 117 in nonsurgical group). There were no statistically significant differences between the 2 treatment groups during the 2-year period (difference of 0.75 points in favor of the surgical group [95% CI, -1.33 to 2.84 points]; P = .48) or at individual time points for the OSS (**Table 3**). The

We found no statistically significant differences between treatment groups during the 2-year follow-up for the mean SF-12 physical component score (1.77 points higher in the surgical group [95% CI, -0.84 to 4.39]; P = .18) or the mean SF-12 mental component score (1.28 points lower in the nonsurgical group [95% CI, -3.80 to 1.23], P = .32; Table 3).



### PROFHER CLINICAL TRIAL FAIBLESSES - CONCLUSIONS

- Age plus élevé parmi patients exclus...
- Impossibilité d'étude en aveugle...
- Scores uniquement «patient-reported»…
- Critères de «déplacement suffisant» pas clairs…

Among patients with displaced proximal humeral fractures involving the surgical neck, there was no significant difference between surgical treatment compared with nonsurgical treatment in patient-reported clinical outcomes over 2 years following fracture occurrence. These results do not support the trend of increased surgery for patients with displaced fractures of the proximal humerus.

Although lack of blinding of patient-reported outcome assessment is unavoidable, similarities in the 2 groups in patient return of questionnaires and baseline characteristics at 24 months, and the lack of a significant effect of baseline patient preferences on the OSS results suggest this did not introduce a bias.

surgical neck. The degree of displacement had to be sufficient for the treating surgeon to consider surgical intervention but did not have to meet the displacement criteria of Neer<sup>10</sup>