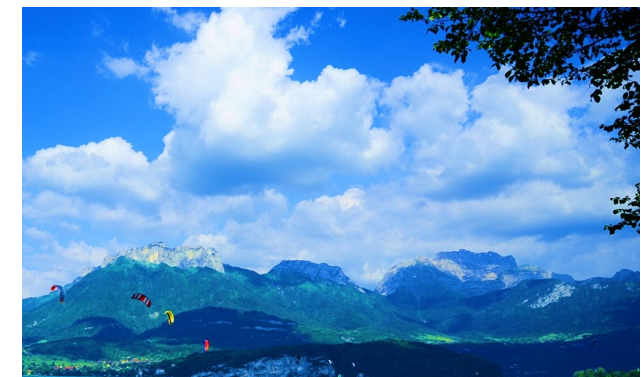


OUTPATIENT

HIP & KNEE ARTHROPLASTY

*short-term results of **100** patients*

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MILANO

7-8 Giugno 2019

Verso la Chirurgia Ortopedica Ambulatoriale

Materials & Methods

Prospective short-term (90 days) study

100 consecutive first Outpatient Arthroplasty
by one surgeon
from december 2014 to may 2017
in an orthopedic department in France

60 THA **25** TKA **15** UKA

Exclusion criteria for Outpatient arthroplasty :

- no « coach » at home for the first days (3-7)
- significant medical events :
 - * cardiovascular
 - * thromboembolic
 - * cerebrovascular
- revision arthroplasty ; THA for trauma
- age > 85 years
- home > 2 hours driving
- *former exclusion criteria in the beginning of our experience :
difficult case, comorbidity (diabete, Parkinson, rheumatoid arthritis ...),
ASA III, BMI >30, > 75 years, > 45 min driving, stairs ...*

Materials & Methods

Our Enhanced Recovery After Surgery protocols

PREOPERATIVELY

Consultation with surgeon (+ written informations)

D-21

- * consultation with anesthetist (+/- erythropoietine)
- * education with coordinator-nurse
- * education with physiotherapist
- * Xray
- * all prescriptions for before and after surgery

+/- osteopath-hypnotherapist

Materials & Methods

PERIOPERATIVELY

- surgery done before 2PM
- short fasting, dexamethasone, IV tranexamic acid, ATB
- **THA** : anterior approach (orthopedic table + C-arm) ; uncemented implants (95%)
- **TKA** (parapatellar approach) and **UKA** (subvastus approach - PSI)
no LRA ; no tourniquet ; cemented implants (100%)
- LIA (ropivacaine), local tranexamic acid, no drain
- Xray, cryotherapy, no drip, H4 full weight bearing ambulating
- home discharge at 6 PM (CHUNG criteria)

Materials & Methods

POSTOPERATIVELY

- patient, coach, GP informed
- painkillers (oxycodone for rescue), NSAID
- cryotherapy-compression, crutches 15 days
- thromboembolic prophylaxis (LMWH or Aspirine)
- hydrocolloid dressing at home D7 D15
- physiotherapy 3 times a week
- no hemoglobin check
- follow-up with phone call by coordinator-nurse : D1 & D7
- consultation with surgeon : D30 (+ Xray) & D90

- **Cases** (*no patient was lost to follow-up*)
 - * 60 THA : 39 M / 21 F ; age 63 years (45-78) ; BMI 25 (20-32) ; ASA I (37) ASA II (20) ASA III (3)
 - * 25 TKA : 15 M / 10 F ; age 69 years (55-80) ; BMI 27 (21-33) ; ASA I (11) ASA II (14)
 - * 15 UKA : 5 M / 10 F ; age 70 years (57-84) ; BMI 24 (18-32) ; ASA I (5) ASA II (10)
- **Surgeries :**
 - * 60 THA : operative time 75 min (60-105) ; complication during procedure : 0
 - * 25 TKA : operative time 83 min (70-110) ; complication during procedure : 0
 - * 15 UKA : operative time 72 min (60-90) ; complication during procedure : 0

Results

- **Adverse events** in the immediate postoperative setting : **6 sur 100**
 - * refractory pain : 0
 - * bleeding : 0
 - * nausea : **2** (1 not discharged)
 - * dizziness : 0
 - * difficulty ambulating : 0
 - * transitory neurological disorder (linked to LIA) :
2 THA **1** TKA **1** UKA (2 not discharged)
- **Not same day discharge** : **4 sur 100**
 - * 2 THA : transitory neurological disorder (linked to LIA) : discharge D1
 - * 1 TKA : nausea : discharge D1
 - * 1 UKA : patient preference : discharge D1

- **Phone calls or visits** (in addition to protocol D1 D7 D30 D90) : **30** sur 100
 - * **15** phone calls (D1-D21)
 - 13 to the orthopedic department : pain
 - 2 to the GP
 - * **15** visits (D7-D21)
 - 12 at surgeon office : pain, haematoma, wound, 1 venous doppler ultrasound
 - 1 at emergency department : wound
 - 2 at the GP : pain - tiredness

Results

- **Early complications** within 90 days : **4** sur 100
 - * haematoma : 0
 - * transfusion : 0
 - * thrombo-embolic event : 0
 - * medical event : 0
 - * refractory pain : 0
 - * THA dislocation : 0
 - * **1** partial greater trochanter fracture THA D7 (stable fibrous union)
 - * **1** stem sinking THA D10 (stem revision at 6 months)
 - * **1** infection TKA D28 (lavage + ATB)
 - * **1** algodystrophy UKA
- **Readmission** within 90 days : **1** sur 100 (infection lavage TKA D28)
- **Satisfaction** from 0 to 10 : **19** satisfied (7-8) and **81** very satisfied (9-10)

- **Short term results similar to literature**

Berger and al CORR 2009 - Den Hartog Acta 2015

- * **same day discharge 96 %**
- * **no specific early complication** (bleeding, thromboembolic, medical)
- * **readmission 1 %** (infection)
- * **satisfaction : 19 %** satisfied (7-8) and **81 %** very satisfied (9-10)

but small cohort in our study

Discussion

Successful initial experience with a novel outpatient total hip arthroplasty program in a public health system in Chile
Paredes and al Int Orthop 2018 Mars

72 THA

Outpatient-Focused Joint Arthroplasty Is the Future: The Midwest Center for Joint Replacement Experience.
Berend and al J Arthroplasty 2018 Feb

1230 THA TKA UKA and few selected revisions

- * same day discharge 98 %
- * readmission 2 %
- * satisfied or very satisfied 98 %

The Shift to Same-Day Outpatient Joint Arthroplasty: A Systematic Review.
Hoffmann and al J Arthroplasty 2018 Apr

1009 THA TKA UKA

- * same day discharge 94,7 %
- * visit to emergency department : 1,98 %
- * readmission : 1,98 %
- * very satisfied : 80 to 96 %

Discussion

○ Focus on Early complications

Outpatient Total Hip Arthroplasty, Total Knee Arthroplasty, and Unicompartimental Knee Arthroplasty: A Systematic Review of the Literature

Pollock and al JBJS 2016

79 500 THA TKA UKA

- * 17 articles (4 comparative studies)
- * **no more complications or readmissions**

Is outpatient arthroplasty as safe as fast-track inpatient arthroplasty? A propensity score matched analysis

Lovecchio and al JBJS 2016

THA TKA

- * **more complications especially bleeding and transfusion**
- * authors emphasize the importance of blood management

Outpatient THA has minimal short-term complication with the use of institutional protocols

Weiser and al J Arthroplasty 2018 Jul

- * **equivalent or better short-term results** than inpatient

Discussion

○ Outpatient vs Short stay vs Inpatient

Can Total Knee Arthroplasty Be Performed Safely as an Outpatient in the Medicare Population?

Courtney and al J Arthroplasty 2018 Jan

49 136 **TKA** : 0,7 % Outpatient - **6 % Short stay D1** - 93 % Inpatient

* early complications : 8 % **2 %** 8 %

* **Short stay D1** : safer = « **sweet point** »

if complications risk factors :

female, general anesthesia, diabete, COPD, HBP, renal failure, ASA 4, BMI >35, age > 75 years

Time-driven activity-based cost of outpatient total hip and knee arthroplasty in different set-ups

Husted and al Acta Orthop 2018 Aug

* Outpatient THA and TKA in **orthopedic department (11 hours)** or in **ambulatory department (7 hours)** results in similar cost

* **Outpatient** compared with Short stay D2 are **two-thirds cheaper** and **no increase occurs in complications or readmissions**

Discussion

- **Mid-term results**

Quality of Recovery, Postdischarge Hospital Utilization, and 2-Year Functional Outcomes After an Outpatient Total Knee Arthroplasty Program.

Gauthier-Kwan and al J Arthroplasty 2018 Feb

43 TKA outpatient vs 43 TKA inpatient

* visits to the emergency department : 8 vs 6 (NS)

* **short term recovery quality and 2 years FU results : no significant different**

- **Long-term results ...**

Pain ?

Loosening ?

Discussion

- **Criteria for Outpatient arthroplasty ?**

- * Criteria move : «learning curve» for Outpatient arthroplasty

- no consensus in the literature*

- * Outpatient arthroplasty rates in this study (revision and trauma excluded)

- 2015 **20%** - 2016 **35%** - 2017(T1T2) **60%**

- with the « same population », the teams increase their Outpatient arthroplasty rates*

- * How far can we go ?

- Different criteria according to the surgery (THA TKA UKA revision) ?

- Outpatient THA 74% (*Berger et al CORR 2009*) - Outpatient UKA 89% (*Ruiz et al OTSR 2017*)

Discussion

	PUBLIC	PRIVATE	PUBLIC	PRIVATE
HIP ARTHROPLASTY in France	2017		2016	
NUMBER	40 125	68 104	38 741	66 664
LOS	6,31	5,04	6,91	5,66
OUTPATIENT RATE	0,75%	2,00%	0,55%	1,15%

2015

6,85 days

0,49%

	PUBLIC	PRIVATE	PUBLIC	PRIVATE
KNEE ARHTROPLASTY in France	2017		2016	
NUMBER	38 088	68 859	36 083	67 229
LOS	6,76	5,78	7,34	6,39
OIUTPATIENT RATE	0,75%	1,30%	0,50%	0,75%

0,436 % TKA

3,501 % UKA

Conclusion

This study suggests that
Outpatient Hip and Knee Arthroplasty
can be performed safely and effectively
with good short-term results
in selected patients using ERAS protocols

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