

A THR program in Burkina Faso: review 2004-2011

L. Dossche, J. Noyez, W. Bruyneel,
W. Ouedraogo



Local hospitals in Africa

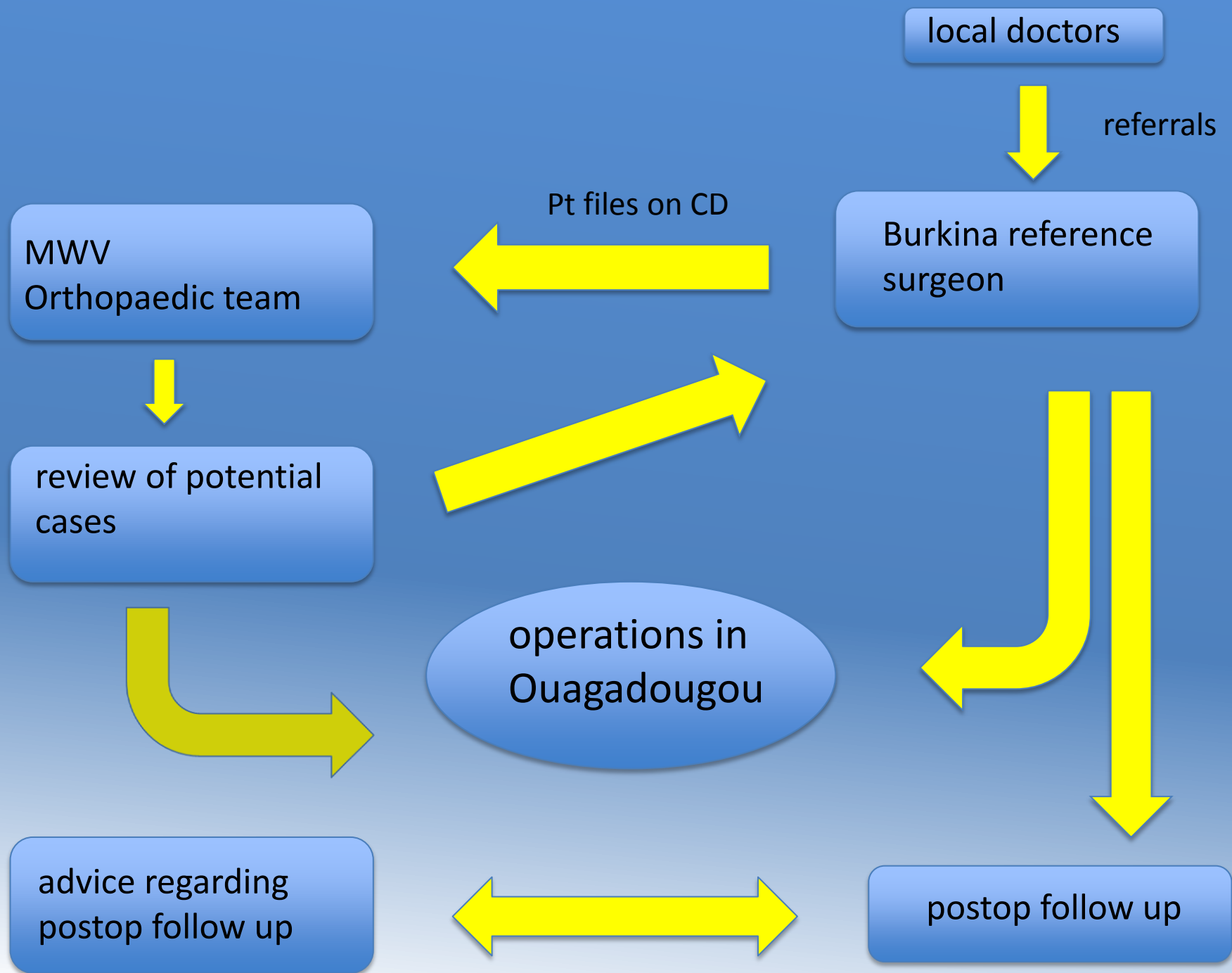


ARTSENZONDERVAKANTIE
MEDECINSSANSVACANCES
MEDICSWITHOUTVACATION



Doctors & nurses working in Belgium





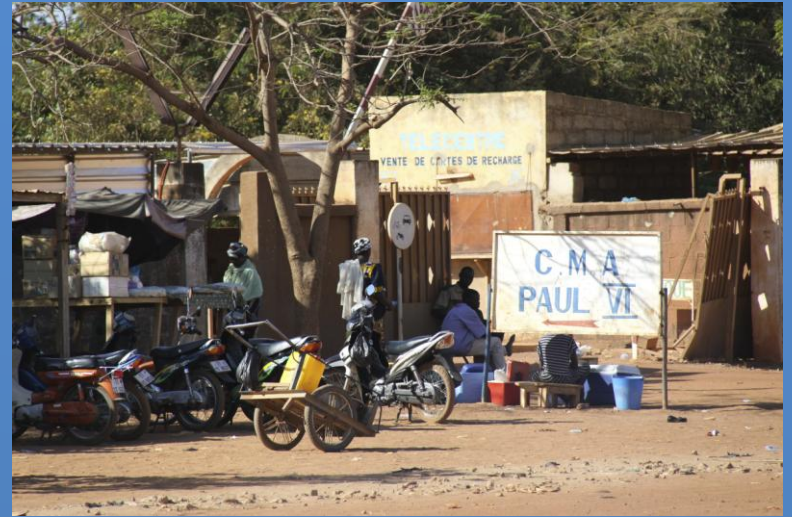
- Is the local hospital an appropriate setting?
- Who are our patients?
 - Do we reach the 'average population'?
 - What are the indications for THR?
- Do we experience specific technical problems?
- Do we have an acceptable complication rate?
 - dislocation, infection, fracture

Adaptation of the project?

Strategies for new future projects

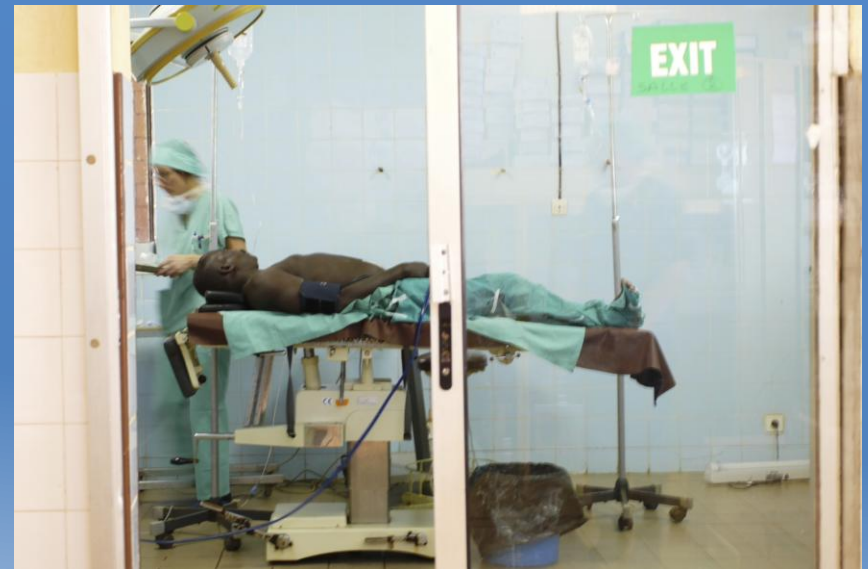
hospital

- community hospital in Ouagadougou
- Allogeneic blood available
- Crutches available



Hospital OR

- 2 operating rooms
- Airco system in OR
- Sterility
 - Hand alcoholisation
 - Teaching hospital staff



Hospital ward

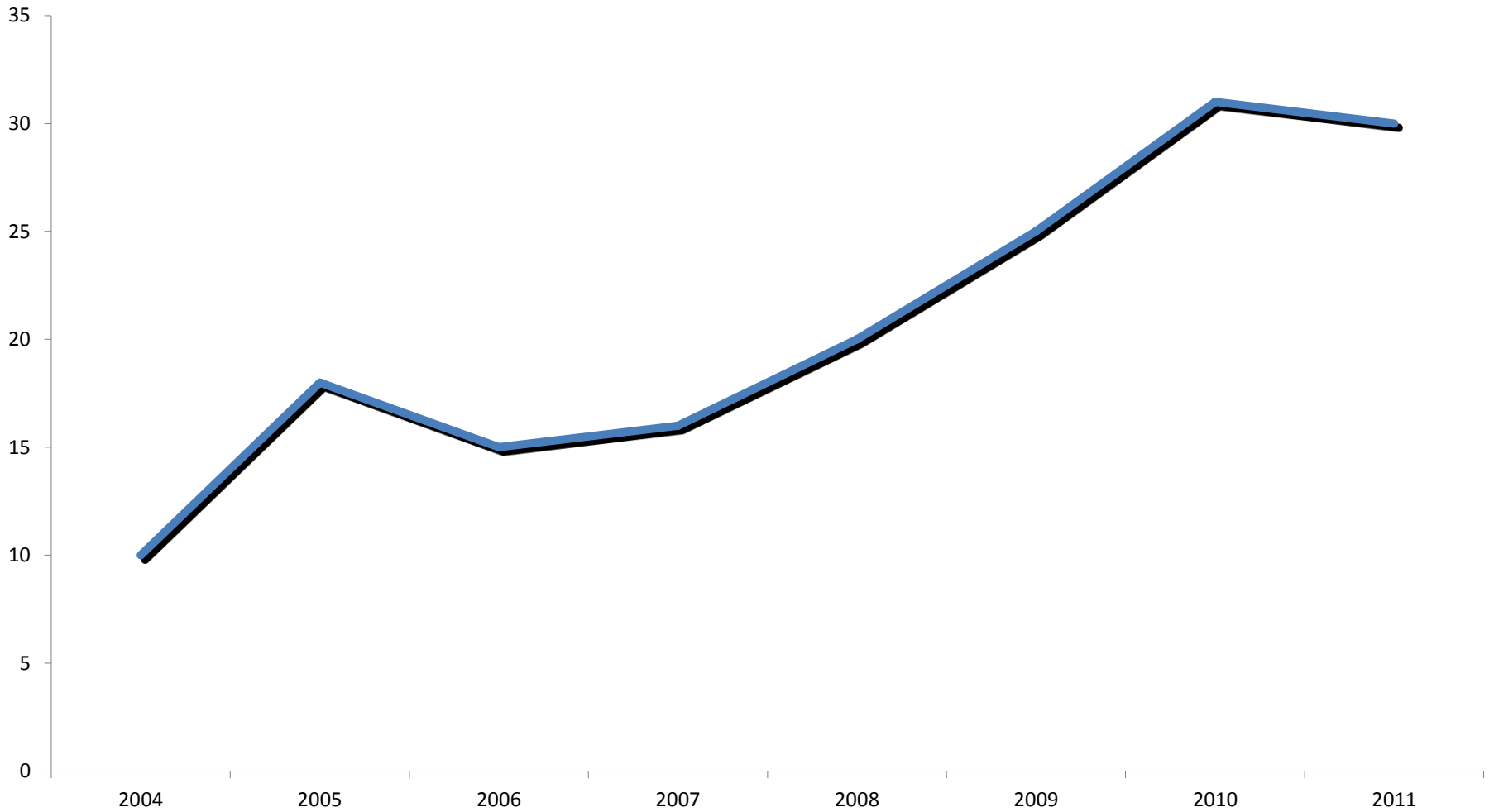
- Wound dressing
 - Changed postop day 2
 - First change by MWV nurse & local nurse
- Anti-dislocation advice discussed with patient on postop day 1 or 2
- Ambulation with crutches started on day 2
- Full weightbearing allowed



review

- 2004 – 2011
- 165 hip prosthesis operations
 - THR 152 92,12%
 - BHR 3 1,82%
 - revision 10 6,06%
 - 9 revisions: primary procedure by us
 - 1 revision: primary procedure in France

Number of prostheses per year



Patient demographics

- Mean age 49,21 ys +/- 11,97
 - Max 78
 - Min 21
- Male 102 61,82%
- Female 63 38,18%

• farmer	21
• military – police officer	7
• pharmacist assistant	1
• koran teacher	3
• nurse – midwife	8
• tailor	2
• cook	1
• car driver	7
• customs officer	3
• journalist	1
• hairdresser	1
• schoolteacher	2
• veterinarian	4
• university student	3
• white collar worker	29
• blue collar worker	7
• no job (retired – unemployment – housewife)	54
• chef	2
• profession not recorderd	9

P R O F E S S I O N S

Diagnosis

• Deg. arthritis	57	34,55%
• AVN	60	36,36%
• fracture	38	23,03%
• Prosthetic loosening	8	4,85%
• Periprost. fracture	1	0,61%
• Chronic dislocation	1	0,61%

ASA classification

- ASA

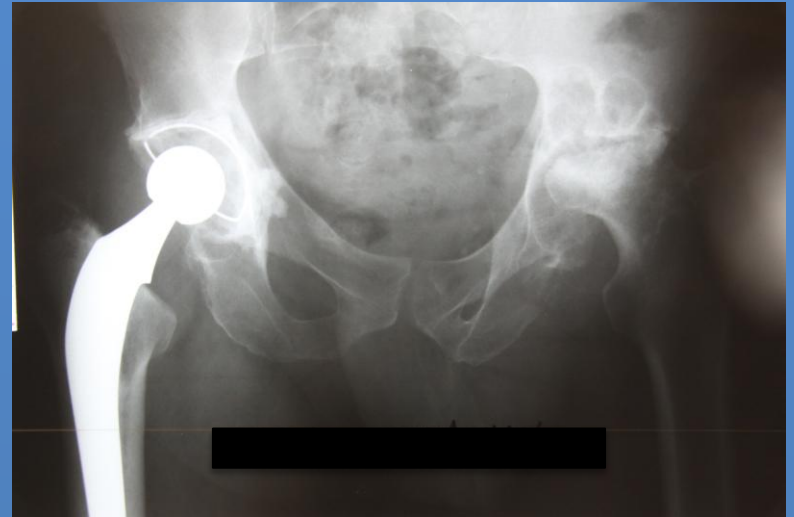
– 1	61	36,97%
– 2	72	43,64%
– 3	3	1,82%
– Not recorded	29	17,58%

Hb electrophoresis

- AA 106 64,24%
- AC 13 7,88%
- AS 12 7,27%
- SC 3 1,82%
- Not recorded 31 18,79%

Operation technique

- Spinal anesthesia
- Dorsal decubitus
- Anterolateral approach
- Cemented components
 - Some cementless cups
- No drains
- Recorded for **each** operation
 - Perioperative stability
 - Perioperative technical problems
 - Peri-operative complications



Peroperative stability

- stable 159 96,36%
- Unstable 6 3,64%
 - anti-rotational plaster cast in 2 patients



Peroperative technical problems

- Operations without remarks 110 66,67%
- Operations with remarks 55 33,33%

78 technical problems recorded

Technical problems are not necessarily complications

Peroperative technical problems

• important shortening of the leg	7
• extensive fibrosis	9
• extensive bone loss	5
• very narrow femoral canal	9
• blocked femoral canal	4
• suboptimal acetabular component	4
• peroperative femoral fracture	4 (1X at reduction)
• fausse route	2
• peroperative fracture trochanter M.	4
• difficult reduction	6
• obesity	4
• acetabular dysplasia	7
• calcar fracture preop present	1
• femoral perforation	4
• fracture trochanter M preop present	1
• peroperative hypovolemic shock	1
• aspiration does not function	1
• flexion contracture / ankylosis	3
• Necessary acetabular reamer absent	1

• use of Kuntschner reamers	5
-----------------------------	---

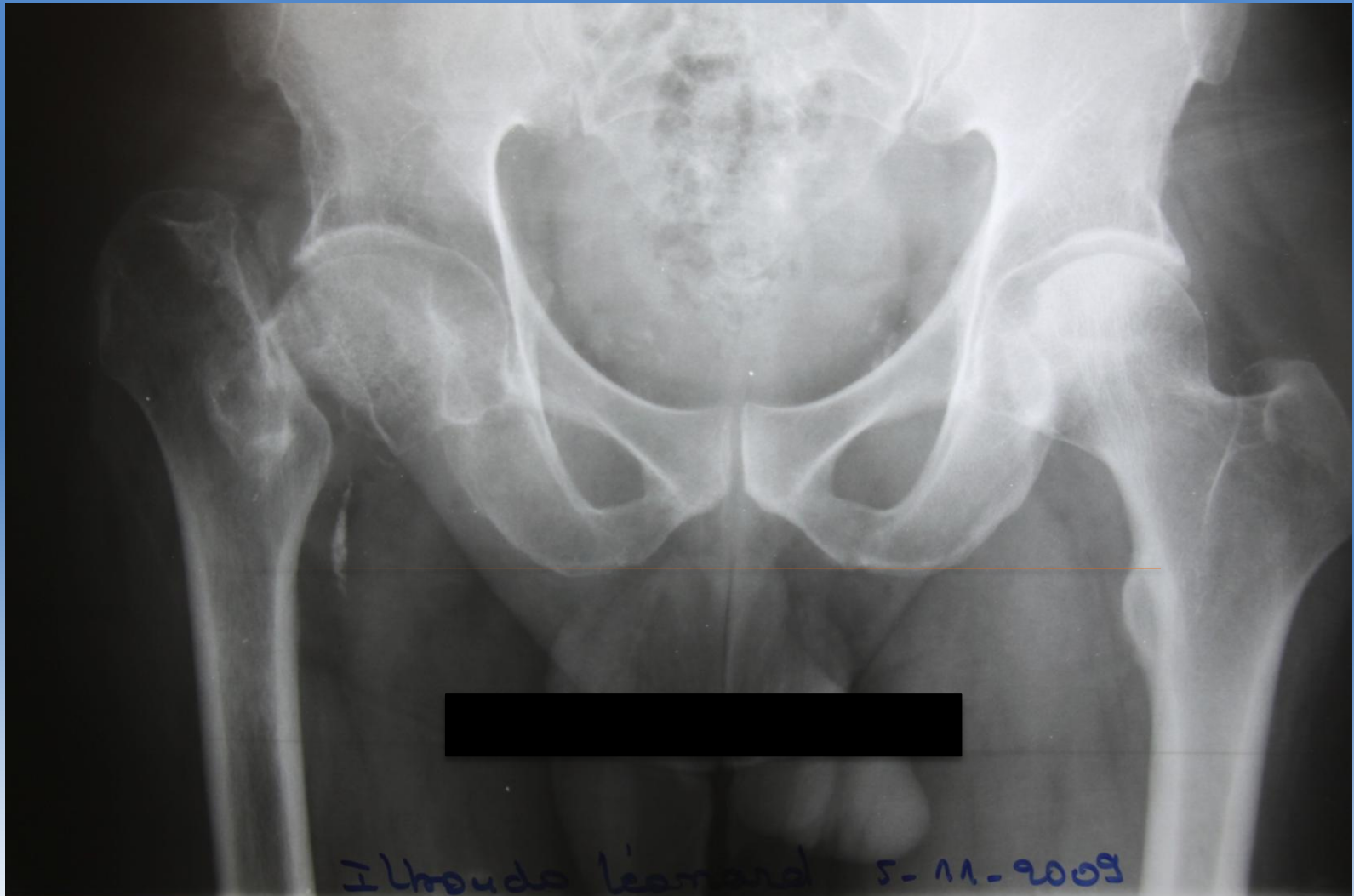
≈ old fractures

component
stock
optimisation

Education
of local OR
assistants



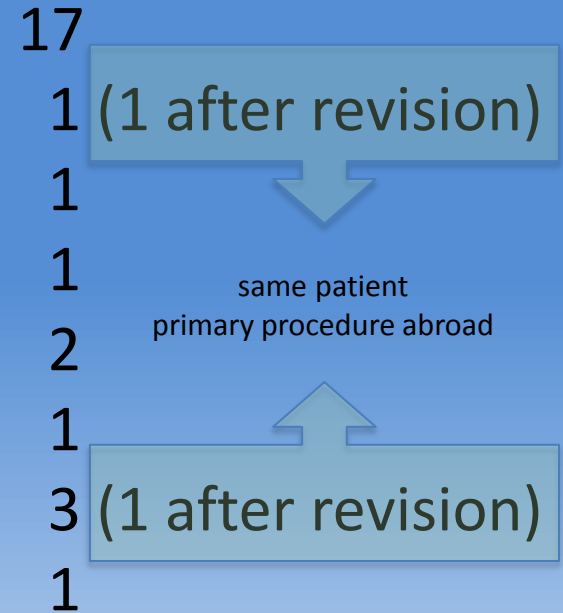
Shortening of the leg



Perioperative complications

27 complications in 23 patients

- bony complications
- infection
- paralysis femoral nerve
- burn injury by electrocautery plate
- postop hemolysis
- pulmonary embolism
- dislocation
- postoperative malaria crisis



Bony complications	Clinical repercussion	No clinical repercussion
Femoral fracture	3	1
Trochanteric fracture		5
Perforation/fissure	2	6

Perioperative mortality

- 2 patients
 - Postoperative sickle cell crisis (hemolysis)
 - Pulmonary embolism

Both patients Hb SC

(3 Hb SC pts operated)

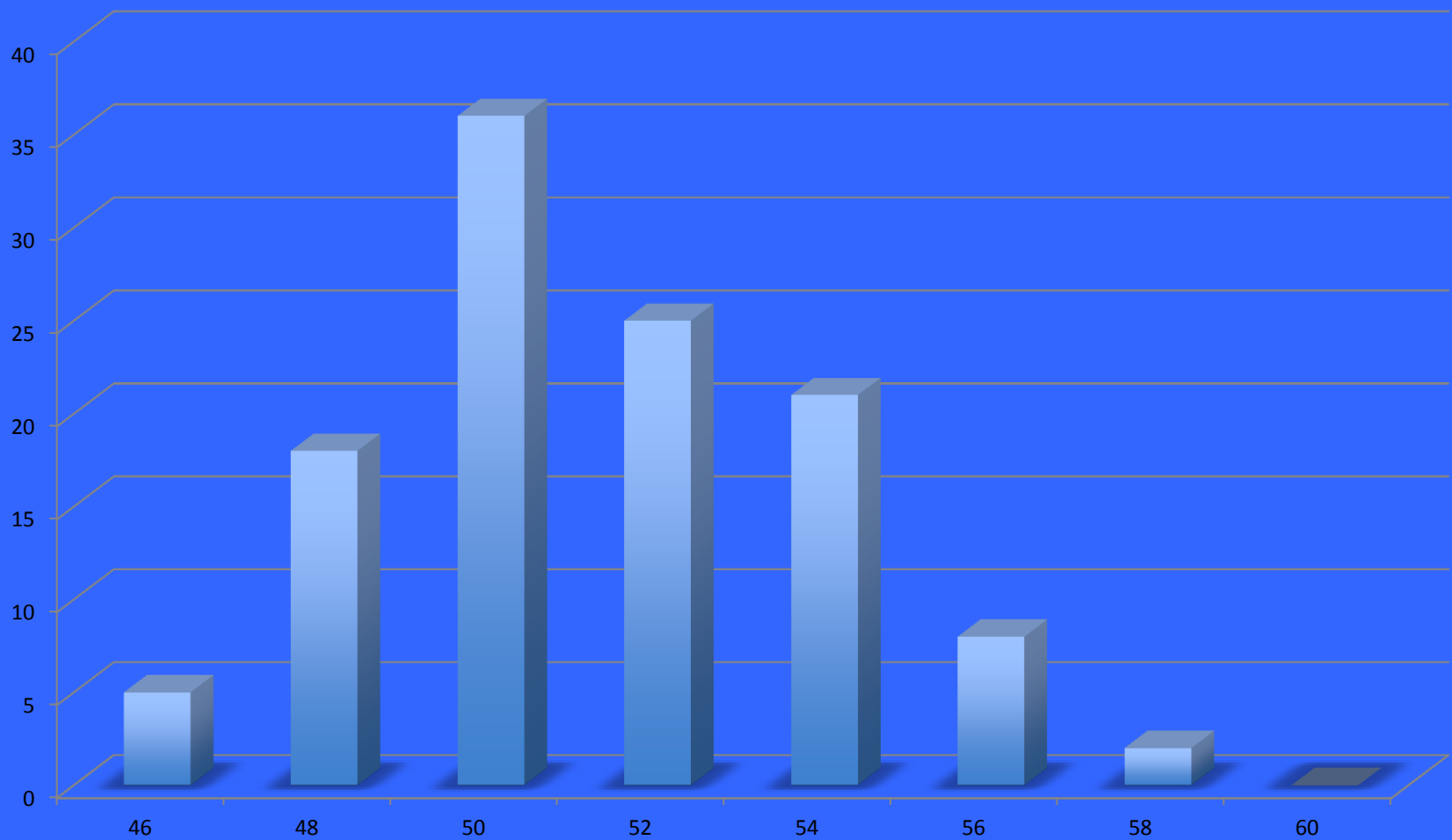
Average hospitalisation days

Number of pts known hosp.	90
average	5,86
stand deviation	2,82
maximal	21
minimal	4

Acetabular components

- Cemented cups 126
- Uncemented cups 3
 - 52 E poly insert
 - 54 E poly insert
 - 56 F poly insert

Distribution cemented cups



11 cemented cups size not known

Distribution of cemented cups

Cemented cups $48+50+52$

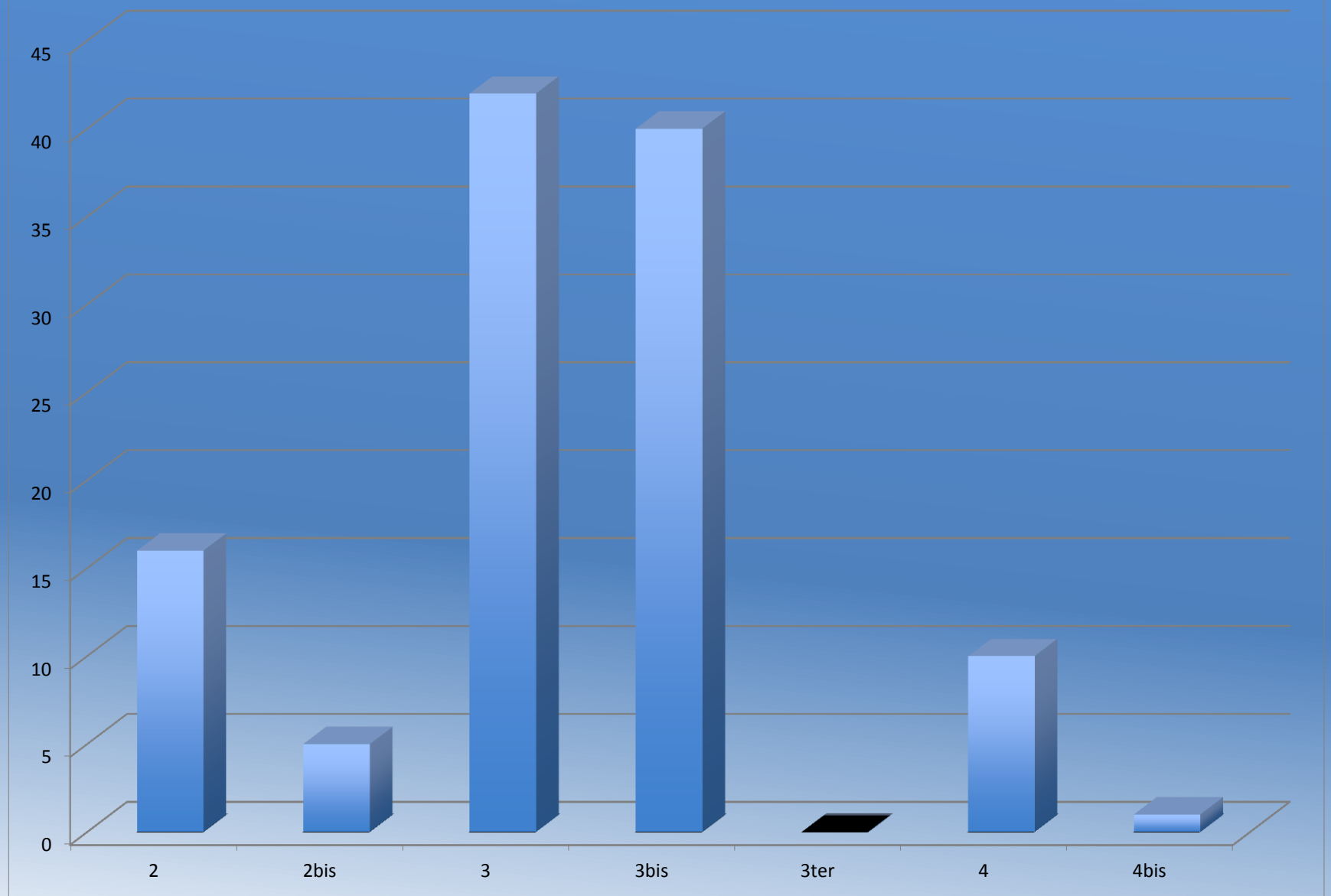
61,24%

of all cups used

Distribution femoral components

Stem type	number
Exeter	13
Legend Long stem	3
Legend	129
Vives	3

distribution stems Legend



15 Legend stems size not known

Long term follow up primary hips

- 2004 – sept 2011
- 130 primary prostheses
 - THR 127
 - BHR 3

Long term problems/failures/revisions

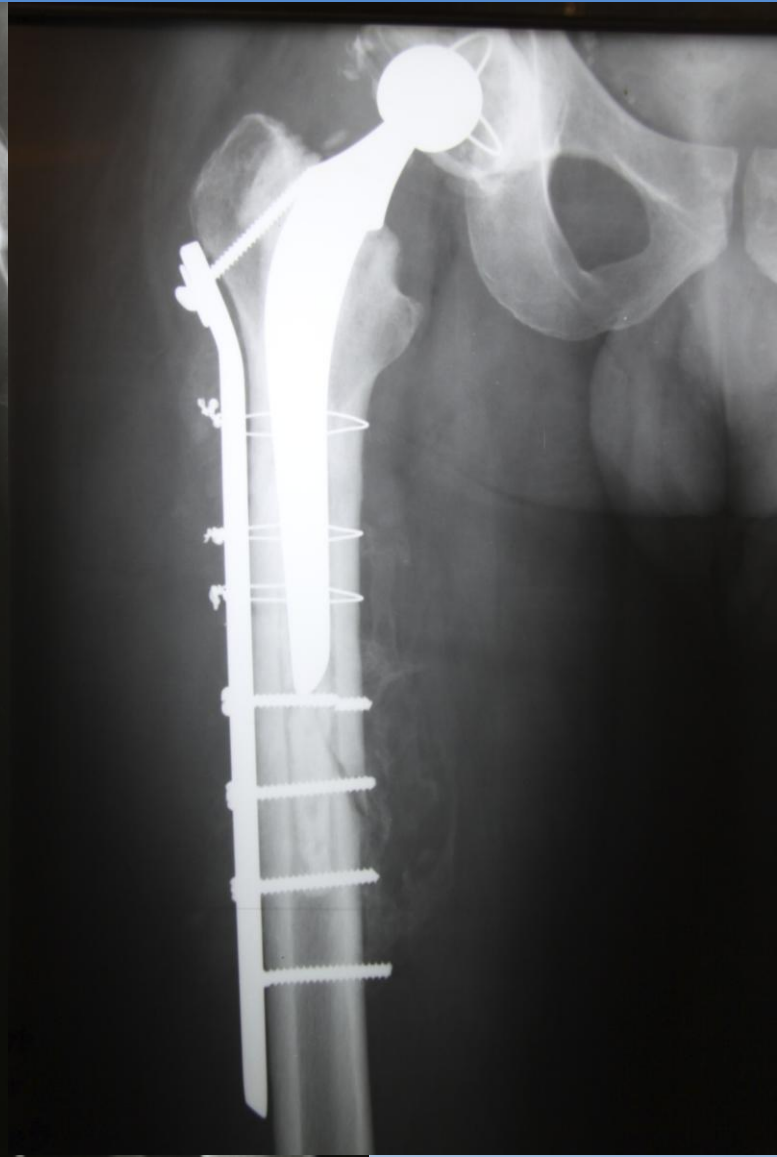
• Revision by us	4	
• Revision by other team	1	3,85%
• Clear indication, awaiting revision	4	
• Possible rev indication, observation	3	9,23%

1 Patient

Periprosthetic fracture
after trauma (B2)

Osteosynthesis by local
surgeon

Favorable clinical result



Long term problems/failures/revisions

status indication	Loosening cup	Loosening stem	Infection	dislocation
revised	3	2		
Clear rev indic	1	1	1	1
Possibly rev indic	2	1	1	

Importance of patient selection

- Medical treatment possibilities limited
- Transfer to other hospital expensive for the patient
- Orthopaedic technical possibilities and equipment limited
- Complications might be difficult to treat
- Bad functional results impair possibility for the patient to be economically active

Current patient criteria for THR

- Medical issues

	Proceed	Contra-indication
HIV +		-
Hb AA, Hb AC, Hb CC	+	
Hb AS	Hb A > 60%	
Hb SC, Hb SS		-
ASA 1, ASA 2	+	
ASA 3	?	?

Current patient criteria for THR

- Orthopaedic issues
 - Decision taken on individual basis
 - ‘challenging’ cases: consensus of both MWW orthopaedic surgeons
 - What about other surgeons’ complications?



Is the project effective?

We think it is

- Dislocation and infection rates are low
- Good patient selection is crucial
 - Strict patient criteria
 - Minimalisation of complications
 - Complications are difficult to deal with
- High patient satisfaction
- 'Average case' more challenging than 'average case' in Belgium

It 's a joint effort



