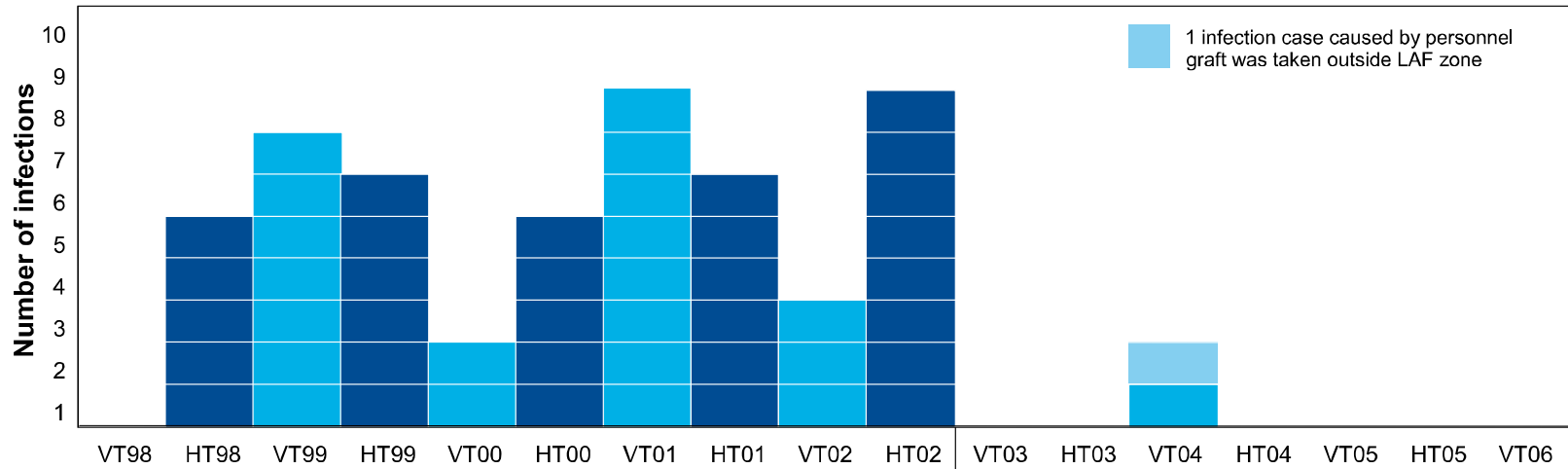


# Statistics from Samariterhemmet, part of Uppsala University Hospital during 8 years of cruciate ligament construction operations



**Normal ventilation**

Number of X-band reconstructions

Year	1998	1999	2000	2001	2002
Amount					108

**With Toul 400 & 300 Laminar airflow unit**

Number of X-band reconstructions

Year	2003	2004	2005	2006
Amount	94	113	129	

# Telge Ortopedi, Södertälje Sweden

920 knee operations with Toul Meditech  
No reported infections, so far



# Samariterhemmet, Uppsala University Hospital, Sweden



## TOUL technique at Samariterhemmet, Uppsala University Hospital

The reason we tested and subsequently purchased the Mobile Laminar Flow Unit from TOUL Meditech AB was that during 2002 we experienced an unacceptably high level of postoperative infections after cruciate ligament reconstruction. (see app. 1)

Air sampling in our five operating theatres showed high bacteria counts (CFU's- colony forming units).

We had to face the prospect that we would have to close down all orthopaedic surgery. Alternatively, we would have to invest in new ventilations system, which we found to be economically impossible.

We then came across information regarding TOUL Laminar Air Flow Unit, which we borrowed for trials. The results were excellent, so we then rented and subsequently purchased two mobile units and a TOUL instrument trolley.

We have successfully used these units for the last 36 months and our postoperative infections rate after cruciate ligament reconstruction is less than 1 %. (see app. 1)

Our experience has been that TOUL Laminar Air Flow Unit has been an economical solution to our problem. They are easy to use and very efficient. We now operate four standing units and two instrument trolleys.

I confirm that I have no commercial interest in TUOL Meditech and that I receive no economical rewards for providing this information.

Göran Angergård  
Chairman, Department of Day surgery, Uppsala University Hospital



2006-08-24  
Stockholm  
SWEDEN

At Plastikkirurggruppen we have used the Toul 400 in 2 standard ventilated operating theatres. In total we have used the Toul technology for 3 years now in our practice and we have been extremely pleased with the result. During 2005 we started to follow up on the infection rate after using the units in each theatre.

The infection rate is currently 0.52% based on an average from 1140 operations in the year 2005.

Breast implants:

350 operations and only 2 infections. Infection rate 0.57%.

Other surgery:

790 operations with 4 infections. Infection rate 0.50%.



Dr Birgit Stark  
Plastic surgeon

# Motala Hospital, Sweden (Orthopaedic center for Östergötland county)

Primary partial hip prosthesis with cement

Primary total hip without cement

Primary total hip with hybrid technology

Primary total hip without cement

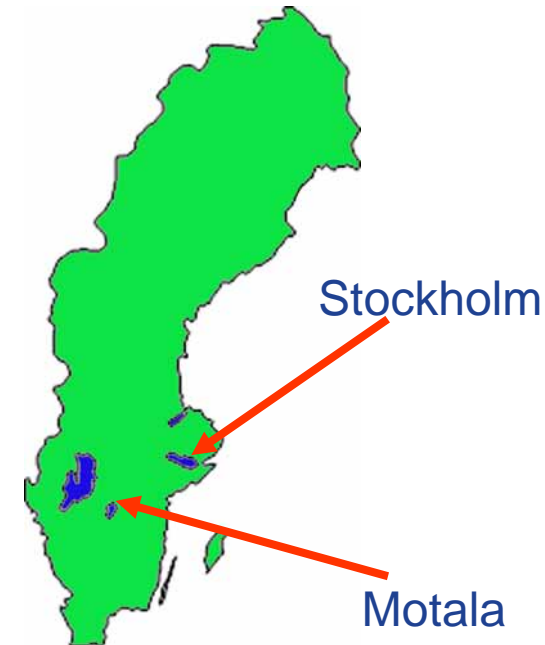
Primary partial knee with cement

Primary total knee with cement



Total: **295 operations** with Toul

So far, **No reported infections**



# Colony Forming Units (CFU/m<sup>3</sup> air)



**0 CFU in wound area –  
No infection risk**



**9 CFU in wound area –  
High infection risk**



**1 CFU in wound area –  
low infection risk**



**30 CFU in wound  
area – Unacceptable**

# Contamination level in the operating room

Conventional Operatingroom	Laminar Flow	With Toul
<p>50-200 CFU/m<sup>3</sup></p> <p>(depending on the duration of the operation and the number of persons in the O.R.)</p>	<p>≤ 20 CFU/m<sup>3</sup></p>	<p>&lt; 5 CFU/m<sup>3</sup></p>



## CFU's on the instrument table

Conventional Operatingroom	Laminar Flow	Toul Instrument table
<p>50-200 CFU/m<sup>3</sup></p> <p>(depending on the duration of the operation and the number of persons in the O.R.)</p>	<p>≤ 20 CFU/m<sup>3</sup></p>	<p>&lt; 1 CFU/m<sup>3</sup></p>



# Karolinska, Sweden (Hip tumor)



OP	Results CFU/m <sup>3</sup>
1	<1
2	<1
3	<1
4	1
5	<1
6	50 *
7	<1

**\*Without Toul**



# Västerås Hospital Orthopedic Dept. Full Back Surgery



CFU test Back Operation

Dag 1	Test 1	Test 2	Test 3	Test 4
	0	0	15	40
Dag 2	Test 1	Test 2	Test 3	Test 4
	0	0	0	20

Day 1 (Dag1): test 3 and 4 without TOUL 400

Day 2 (Dag 2) : test 4 without TOUL 400

# Södersjukhuset, Sweden



Södersjukhuset have used the TOUL 400 for one year and have during this period of time performed approx. 400 operations.

**Infection rate <0,5%**

OP	Results in CFU(KBE)/m3
Operation 1	0,5
Operation 2	1
Operation 3	0
Operation 4	1,5
Operation5	0
OP-Room without Toul	233 (99-383)

Measurements performed by Karolinska university hospital hygienedep.

Operations from 21 to 27 April 2005