

2014 Scandinavian Survey

Day Case Anaesthesia

Routines & Practice

Jan Jakobsson

*Anestesi, god förberedelse och
anestesiteknik med liten variabilitet
underlättar snabb återhämtning*

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2014 DCA Scandinavian Survey

- ***The Dream Team; Sellbrant I, Warren-Stomberg M, Brattwall M, Jakobsson JG.***

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..first and most important, I would humbly like to thank Kari Korittila one of major pioneers in Ambulatory Surgery/Anaesthesia research

- **Balanced analgesia improves recovery and outcome after outpatient tubal ligation.**

- [Eriksson H1, Tenhunen A, Korttila K. Acta Anaesthesiol Scand. 1996 Feb;40\(2\):151-5.](#)

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- **Abstract**

- Outpatient surgery benefits patients only if postoperative sequelae are effectively treated. After laparoscopic tubal ligation (TL) intense pain and consequent postoperative nausea and vomiting (PONV) has been a problem delaying recovery and resulting in hospital admission. Ninety patients were randomised to this double-blind study, the aim being to evaluate the effect of balanced analgesia on postoperative pain and recovery after sterilization. The balanced analgesia group received 5 ml of 2% lidocaine gel on the sterilization clips and perioperatively 200 mg of ketoprofen i.v. The lidocaine group received 5 ml of 2% lidocaine gel on the clips and placebo i.v. perioperatively. The placebo group received 5 ml of placebo gel on the clips and placebo i.v. perioperatively. Infusion of propofol and 67% nitrous oxide in oxygen were used for maintenance of anaesthesia. Succinylcholine and vecuronium were used for muscle relaxation and 0.1 mg of fentanyl i.v. was given to all patients at induction of anaesthesia. Postoperative pain and analgesic requirements, incidence of PONV and need for antiemetic medication were all significantly lower in the balanced analgesia group. Home readiness was consistently achieved 70-90 min sooner in the balanced analgesia group compared to the other groups ($P < 0.01$ between the balanced analgesia and the placebo group), and the patients were able to return to normal activity sooner (cumulatively 93% of the patients in the balanced analgesia group vs. 60% in the other two groups ($P < 0.01$ between the balanced analgesia and the other groups) had returned to normal activity on the 2nd postoperative day). It is concluded that in patients undergoing laparoscopic TL the combination of analgesic regimens with different mechanisms of action offer a simple and efficient way of postoperative pain relief, as well as an improvement of quality (i.e. less PONV) and speed of recovery.

Is day surgery safe? A Danish multicentre study of morbidity after 57,709 day surgery procedures.

- [Acta Anaesthesiol Scand](#). 2012 Mar;56(3):323-31. doi: 10.1111/j.1399-6576.2011.02631.x.
- [Majholm B1](#), [Engbæk J](#), [Bartholdy J](#), [Oerding H](#), [Ahlburg P](#), [Ulrik AM](#), [Bill L](#), [Langfrits CS](#), [Møller AM](#).
- **BACKGROUND:**
- Day surgery is expanding in several countries, and it is important to collect information about quality. The aim of this study was to assess morbidity and unanticipated hospital visits 0-30 days post-operatively in a large cohort.
- **METHODS:**
- We prospectively recorded data from 57,709 day surgery procedures performed in eight day surgery centres over a 3-year period. We cross-checked with the National Patient Registry to identify complications 0-30 days post-operatively, and registrations from The Danish Register of Cause of Death were requested. We retrieved the records of 1174 patients to assign a relation between secondary contact and day surgery.
- **RESULTS:**
- The overall rate of return hospital visits was 1.21% [95% confidence interval (CI): 1.12-1.30%] caused by a wide range of diagnoses. No deaths were definitely related to day surgery. The return hospital visits were due to haemorrhage/haematoma 0.50% (95% CI: 0.44-0.56%), infection 0.44% (95% CI: 0.38-0.49%) and thromboembolic events 0.03%. Major morbidity was rare. The surgical procedures with the highest rate of complication were tonsillectomies 11.4%, surgically induced abortions 3.13% and inguinal hernia repairs 1.23%.
- **CONCLUSION:** This large-scale Danish national study confirmed that day surgery is associated with a very low rate of return hospital visits. Despite the rapid expansion of day surgery, safety has been maintained, major morbidity being very rare, and no deaths being definitely related to day surgery.

Swedish survey 2007

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Clinical practice and routines for day surgery in Sweden: results from a nation-wide survey

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the 2007 survey

Table 1

Organisation of day surgery (DS) and demographical data at the different hospitals, data as median (range).

	Number of in-house procedures 2005 Median (range)	Number of day surgery procedures 2005 Median (range)
In 2005, at your hospital, how many operations were performed		
All ages	2108 (0–22,000)	2200 (651–7300)
Paediatric (<18)	80 (0–6000)	150 (0–2000)
How many of all procedures during 2005 were		Estimated percentage of all DS
General surgery?	643 (0–2700)	28 (1–100)%
Gynaecology?	380 (0–2000)	17 (3–98)%
Orthopaedics?	780 (58–2666)	29 (5–90)%
Urology?	150 (0–1300)	4.5 (1–70)%
Plastic surgery?	44 (0–2100)	4 (0–89)%
Hand surgery?	100 (0–1800)	10 (0–82)%
ENT?	150 (0–2000)	10 (1–100)%

The 2014 DCA Scandinavian Survey, responders

	Sweden	Denmark	Norway	Finland	Iceland	all
<i>University hospital</i>	97	84	45	120	5	351
<i>Central</i>	64	32	21	44	0	161
<i>Rural hospital</i>	21	6	19	27	1	74
<i>Private unit</i>	16	7	8	8	3	47
<i>Office based</i>	4	5	2	2	3	16
<i>total</i>	202	134	95	206	12	649

2014 DCA Scandinavian Survey, responders

	Sweden	Denmark	Norway	Finland	Iceland
<i>Day surgery</i>	89	50	59	95	10
	43%	37%	61%	45%	77%
<i>In-hospital care</i>	114	86	38	114	3
<i>total</i>	203	136	97	209	13

2014 DCA Scandinavian Survey, responders

	Univerity hospital	Central hospital	Rural hospital	Private unit	Office base
<i>Day surgery</i>	101 29%	91 57%	63 86%	38 82%	8 50%
<i>In-hospital care</i>	249	68	10	8	8

Estimated frequency **change of performed** day surgery procedures since 2010

	Overall More/ equal/ less <small>(no responses)</small>	University hospital More/ equal/ less <small>(no responses)</small>	Central hospital More/ equal/ less <small>(no responses)</small>	Rural hospital More/ equal/ less <small>(no responses)</small>	Private hospital More/ equal/ less <small>(no responses)</small>	Office based hospital More/ equal/less <small>(no responses)</small>
Sweden	52 /28/8	14/11/2	22/6/5	9/7/0	7/3/-	0/1/1
Denmark	37 /9/6	13/2/3	14/2/2	5/1/0	4/2/-	1/1/1
Norway	30 /16/1	9/7/0	11/5/1	14/3/0	5/1/-	1/0/0
Finland	64 /24/8	23 /11/5	15 /7/3	22 /0/0	4 /6/-	-
Iceland	7 /4/1	4/1/0	-	0/0/1	1/2/-	2/1/0

Preoperative assessment performed

	Anaesthesiologist	Paper review, only	Nurse	Surgeon
Yes, overall	281/ 63%	136/ 62%	140/ 49%	124/ 44%
Sweden	83/80%	44/69%	27/32%	23/40%
Denmark	49/85%	15/45%	13/33%	9/19%
Norway	53/66%	25/71%	18/19%	28/69%
Finland	85/29%	51/58%	78/63%	61/36%
Iceland	11/85%	-	4/79	2/60

Structured leaflet used for patients' preoperative self-assessment

	Overall No/%	University hospitals Yes/No of R	General hospitals	Rural hospitals	Private hospitals	Office based clinics
Yes	292/ 93,3%					
No	21/6,7%					
<i>Sweden</i>	90/98,9%	27/27	33/34	17/17	11/11	2/2
<i>Denmark</i>	41/78,8%	13/18	16/18	4/6	5/6	2/3
<i>Norway</i>	59/96,7%	15/17	17/17	18/18	8/8	1/1
<i>Finland</i>	94/97,9%	37/38	25/25	21/22	11/11	-
<i>Iceland</i>	7/58,3%	4/5	-	1/1	1/3	1/3

Preoperative **limitations/screening**

- general anaesthesia

	BMI-limit Yes/no	Age-limit Yes/no	PONV- screening Yes/no
<i>Sweden</i>	22/68	6/85	47/44
<i>Denmark</i>	19/33	0/50	32/20
<i>Norway</i>	20/40	6/52	15/45
<i>Finland</i>	25/72	0/95	35/64
<i>Iceland</i>	3/9	1/11	7/5

Timing for preoperative assessment

	<i>Paperbased a week before surgery</i>	Day of surgery	With the surgical consultation	Visit preoperative unit	Other
Yes, overall n-svar/%	141/ 46%	53/ 17%	38/ 12%	32/ 10%	46/ 15%
Sweden <i>Ja/n-svar</i>	45/88	14/88	6/88	9/88	14/88
Denmark	14/51	7/51	14/51	13/51	3/51
Norway	36/61	10/61	2/61	4/61	9/61
Finland	46/97	14/97	14/97	6/97	17/97
Iceland	0/12	7/12	2/12	0/12	3/12

Table preop oral analgesic use by country

	Preop oral analgesics	Paracetamol	None-selective NSAID	Coxib	NSAID	Opioid
Yes	249/82%	245	121	66	187	78
no	52					
Sweden	80/90%	79	35	36	71	45
Denmark	33 /67%	34	26	4	30	2
Norway	55/92%	54	40	10	50	17
Finland	72/76%	68	16	14	30	12
Iceland	10/100%	10	4	2	6	2

Preventive analgesia use by type of hospital

	Preop oral analgesics	Paracetamol	None-selective NSAID	Coxib	NSAID	Opioid
University	80/80%	80	33	24	57	18
Central	78/86%	77	46	18	64	31
Rural	53/84%	51	21	15	36	19
Private	30 /79%)	27	19	8	27	9
Office based	6/75%	6	4	2	6	1

For induction by Country

	Sweden	Denmark	Norway	Finland	Iceland
Propofol	90	88	88	90	87
Thiopenton	8	11	12	5	0
Sevoflurane	8	7			

Preferred Anaesthetic Technique

	Sevoflurane	Desflurane	Iso	TIVA
Responders	256/303	111/303		284/303
Mean use	45%	14%	Not used	58%

	Sweden	Denmark	Norway	Finland	Iceland
TIVA	81/ 45%	46/ 89%	57/ 83%	91/ 40%	9/ 43%
Sevoflurane	82/ 59%	31/ 22%	40/ 13%	93/ 56%	10/ 46%
Desflurane	25/ 16%	10/ 1%	22/ 15%	52/ 13%	2/ 30%

	University	Central	Rural	Private	Office based
TIVA	55%	58%	60%	68%	34%
Sevoflurane	45%	42%	42%	55%	72%

Intraoperative analgesic by country

	Sweden	Denmark	Norway	Finland	Iceland
<i>Fentanyl</i>	76/ 55%	27/ 43%	36/ 39%	94/ 59%	10/ 72%
<i>Alfentanil</i>	82/ 59%	31/ 22%	40/ 13%	93/ 56%	10/ 46%
<i>Remifentanil</i>	72/ 47%	40/ 87%	50/ 76%	74/ 36%	5/ 50%
<i>Combination</i>	25/ 20%	23/ 52%	29/ 56%	27/ 34%	3/ 58%

The Airway praxis; when was Lma assessed an alternative

	Sweden	Denmark	Norway	Finland	Iceland
Shoulder surgery	59/ 58%	33/ 63%	47/ 57%	81/ 50%	5/ 97%
Breast surgery	53/ 83%	14/ 61%	37/ 72%	63/ 57%	6/ 91%
Laparoscopic surgery	61/ 2%	28/ 23%	44/ 29%	76/ 6%	5/ 45%
Tonsillectomy	51/ 14%	19/ 29%	35/ 25%	73/ 3%	6/ 45%
Prone position	60/ 16%	27/ 35%	47/ 45%	75/ 14%	9/ 52%

Structured postoperative routines

	Discharge criteria Ja/n-svar	Upper limit for rescue analgesic Ja/n-svar	Written information surgical procedure Ja/n-svar	Written information pain management Ja/n-svar	Oral information pain management by anaesthetist/nurse/surgeon %
Sweden	84/89	52/89	74/88	57/88	4/48/33%
Denmark	50/50	26/49	40/49	42/49	9/34/7%
Norway	55/61	17/61	52/58	47/59	2/32/18%
Finland	90/97	36/94	90/94	73/97	12/79/3%
Iceland	9/12	6/11	8/11	7/12	4/4/3%

Structured postoperative pain rating

	Overall	University hospital	General hospitals	Rural hospitals	Private hospitals	Office based clinics
Yes	268ja/86%	92ja/106n-svar	88/95	57/64	28/39	2/8
VAS/NRS	173ja/70ja (65%/26%)	43VAS/35NRS	64/18	45/7	19/9	1/1
Sweden ja/n-svar		26/27	32/34	16/17	7/11	0/1
Denmark		17/17	18/18	4/8	5/6	0/3
Norway		11/17	13/17	15/18	5/8	1/1
Finland		37/40	25/26	21/22	9/11	
Iceland		1/5		1/1	2/3	1/3

Postoperative pain management routines

	Pain medication doggy-bag Ja/n-svar	Prescribed analgesics by anaesthetist/surgeon Ja/n-svar	Prescribed strong opioids Ja/n-svar
Yes, overall n-svar/%	242/ 79,9%	272/ 88,6%	211/ 72%
Sweden	71/89	2/76	58/80
Denmark	42/50	5/25	35/50
Norway	40/56	7/48	34/56
Finland	85/95	18/78	78/95
Iceland	3/12	2/10	5/11

Postoperative discharge routines

	Calling patient postop Ja/n-svar	Information to patients general practioner Ja/n-svar	Patient discharge without escort Ja/n-svar
Yes, overall n-svar/%	121/ 39,7%	95/ 31,6%	105/ 33,7%
Sweden	36/87	5/87	41/91
Denmark	19/51	26/50	18/50
Norway	37/58	34/58	22/59
Finland	26/96	27/93	23/99
Iceland	2/12	2/12	1/12

Homeward bound: the safety of discharging postappendectomy patients directly home from the recovery room.

- [Mitchell MB](#)¹, [Daniel D.](#) *Am Surg.* 2014 Oct;80(10):1069-73. [Author information](#)
- **Abstract**
- The discharge of the patients directly from the recovery room after appendectomy has only recently been described in the literature. Because the 30-day readmission rate is used as a surrogate for safety and as a means to identify complications from appendicitis, it is our aim to demonstrate that the 30-day readmission rate of patients with acute appendicitis discharged from the recovery room is not higher than that of a control group and that from other studies in the literature for traditional hospital discharge. The operating room electronic database at Kaiser Riverside and Kaiser Moreno Valley hospitals was used to identify all appendectomies from September 1, 2008, to April 30, 2013.
- **During that span, 2044 appendectomies were performed.**
- **Eight hundred seventy (43%) were discharged from the recovery room.**
- Of these patients, 861 (99%) had a laparoscopic appendectomy.
- **The average time from anesthesia end time until discharge from the recovery room was 2 hours 42 minutes.**
- ***There were 12 (1.4%) total readmissions with nine (1%) related to previous appendectomy compared with one (0.9%) in the control group.***
- ***None of the readmissions were the result of early life-threatening problems such as bleeding, bowel injury, intraperitoneal bladder injury, or stump leak.***
- Patients with acute appendicitis who were discharged home from the recovery room did not have an increased incidence of 30-day readmission when compared with traditional hospital discharge.

Cost-minimisation analysis of endometrial thermal ablation in a day case or outpatient setting under different anaesthesia regimens.

- [Eur J Obstet Gynecol Reprod Biol.](#) 2012 May;162(1):102-4. [Ahonkallio S](#)¹, [Santala M](#), [Valtonen H](#), [Martikainen H](#).
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- **OBJECTIVE:**
- To evaluate the cost difference between a daycase endometrial thermal ablation performed under general anaesthesia and an outpatient endometrial ablation using local anaesthetic.
- **STUDY DESIGN:**
- Calculations using real reported resource use in 20 daycase procedures and 16 outpatient procedures.
- **RESULTS:**
- **The costs were 1865 euros for daycase procedure versus 1065 euros for outpatient procedure.**
- **CONCLUSION:**
- The cost of endometrial thermal ablation can be considerably minimised by taking the procedure out of the theatre and performing it under local anaesthetic instead of general anaesthesia. This setting makes endometrial thermal ablation cost-effective.

GUIDELINES

**2014 ESC/ESA Guidelines on non-cardiac surgery:
cardiovascular assessment and management**

The Joint Task Force on non-cardiac surgery: cardiovascular assessment and management of the European Society of Cardiology (ESC) and the European Society of Anaesthesiology (ESA)

- **Recent evidence suggests that there is no universal ‘target blood pressure value’ to define intraoperative arterial hypotension, but percentage decreases >20% of mean arterial pressure, or mean arterial pressure values <60mmHg for cumulative durations of >30 minutes are associated with a statistically significant increase in the risk of postoperative complications that include myocardial infarction, stroke and death**

GUIDELINES

**2014 ESC/ESA Guidelines on non-cardiac surgery:
cardiovascular assessment and management**

The Joint Task Force on non-cardiac surgery: cardiovascular assessment and management of the European Society of Cardiology (ESC) and the European Society of Anaesthesiology (ESA)

- Similarly, increased duration (>30 minutes) of deep anaesthesia level (**bispectral index scale or values <45**) was statistically associated with an increased risk of postoperative complications

GUIDELINES

2014 ESC/ESA Guidelines on non-cardiac surgery: cardiovascular assessment and management

The Joint Task Force on non-cardiac surgery: cardiovascular assessment and management of the European Society of Cardiology (ESC) and the European Society of Anaesthesiology (ESA)

- **A meta-analysis published in 2013 combining standard and Bayesian approaches on studies performed in adult cardiac surgery patients concluded that the use of inhaled anaesthetics, as opposed to total intravenous anaesthesia, was associated with a 50% decrease in mortality (from 2.6% in the total intravenous anaesthesia arm to 1.3% in the inhaled anaesthetics arm); the Bayesian meta-analysis concluded that sevoflurane was the most effective agent in decreasing mortality**

– Thank you for your attention