Day Surgery around Europe 2016: Rate and recent advanced practices
Northern Europe

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Chairman NORDAF, Norway
Paris
AGENDA

• Introduction
• Facts and figures
• Benchmarking and pushing borders..
• The future
• International initiatives
INTRODUCTION

Keypoint - T.H.M.:

• DS is the winning concept – Scandinavia is (also) pushing the borders

• Scandinavia: Denmark, Norway, Sweden and Finland

• Definition Day Surgery: Home same day: not 23 hours - overnight..
• All surgery is day-surgery

• Paradigme: Good explication: why should this patient be admitted for surgery...?!
## Fast-track surgery – status

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Recovery Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lumbar disc op</td>
<td>1 – 2 days</td>
</tr>
<tr>
<td>Thyroidectomy</td>
<td>1 – 2 days</td>
</tr>
<tr>
<td>Arthroscop. op</td>
<td>2 – 3 days</td>
</tr>
<tr>
<td>Mastectomy</td>
<td>2 – 3 days</td>
</tr>
<tr>
<td>Parathyroid op</td>
<td>2 – 3 days</td>
</tr>
<tr>
<td>Adrenalectomy</td>
<td>2 – 3 days</td>
</tr>
<tr>
<td>Cholecystectomy</td>
<td>2 – 3 days</td>
</tr>
<tr>
<td>Fundoplication</td>
<td>2 – 3 days</td>
</tr>
<tr>
<td>Lap/vag hyst.</td>
<td>2 – 3 days</td>
</tr>
<tr>
<td>Hernia repair</td>
<td>2 – 3 days</td>
</tr>
<tr>
<td>Bariatric surg</td>
<td>1 – 2 days</td>
</tr>
<tr>
<td>Carotid endart.</td>
<td>1 – 2 days</td>
</tr>
<tr>
<td>Nephrectomy</td>
<td>1 – 2 days</td>
</tr>
<tr>
<td>Pulm. resection</td>
<td>1 – 2 days</td>
</tr>
<tr>
<td>Open hysterectomy</td>
<td>1 – 2 days</td>
</tr>
<tr>
<td>Rad. prostatectomy</td>
<td>1 – 2 days</td>
</tr>
<tr>
<td>Knee replacement</td>
<td>1 – 2 days</td>
</tr>
<tr>
<td>Hip replacement</td>
<td>1 – 2 days</td>
</tr>
<tr>
<td>Aortic aneurism</td>
<td>2 – 3 days</td>
</tr>
<tr>
<td>Colonic resection</td>
<td>2 – 3 days</td>
</tr>
</tbody>
</table>

Kehlet & Dahl, Lancet 2003;363:1921
Kehlet & Wilmore, Br J Surg 2005;3-4
FACTS AND FIGURES

• Scandinavia: 60 – 70+ % of elective surgery
  – Increasing
    • Less differences nationally
    • New procedures
    • National strategy

• Examples
<table>
<thead>
<tr>
<th>Procedure</th>
<th>England</th>
<th>Scotland</th>
<th>Germany</th>
<th>Finland</th>
<th>Sweden</th>
<th>Denmark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female lap ster.</td>
<td>86 %</td>
<td>N/A</td>
<td>1 %</td>
<td>93 %</td>
<td>77 %</td>
<td>63 %</td>
</tr>
<tr>
<td>Cystopectocele</td>
<td>2 %</td>
<td>0.4 %</td>
<td>1 %</td>
<td>14 %</td>
<td>32 %</td>
<td>56 %</td>
</tr>
<tr>
<td>Pilonidal cyst</td>
<td>36 %</td>
<td>64 %</td>
<td>28 %</td>
<td>70 %</td>
<td>96 %</td>
<td>92 %</td>
</tr>
<tr>
<td>Baker cyst</td>
<td>N/A</td>
<td>N/A</td>
<td>46 %</td>
<td>82 %</td>
<td>94 %</td>
<td>93 %</td>
</tr>
<tr>
<td>Cruciate lig. *</td>
<td>22 %</td>
<td>50 %</td>
<td>25 %</td>
<td>80 %</td>
<td>N/A</td>
<td>90 %</td>
</tr>
<tr>
<td>Varicose veins</td>
<td>79 %</td>
<td>69 %</td>
<td>52 %</td>
<td>85 %</td>
<td>94 %</td>
<td>99 %</td>
</tr>
<tr>
<td>Mastectomy *</td>
<td>4 %</td>
<td>5 %</td>
<td>2 %</td>
<td>5 %</td>
<td>11 %</td>
<td>11 %</td>
</tr>
<tr>
<td>Cholecyst lap *</td>
<td>32 %</td>
<td>20 %</td>
<td>N/A</td>
<td>28 %</td>
<td>22 %</td>
<td>63 %</td>
</tr>
<tr>
<td>Haemorrhoids</td>
<td>66 %</td>
<td>54 %</td>
<td>32 %</td>
<td>57 %</td>
<td>95 %</td>
<td>92 %</td>
</tr>
<tr>
<td>Hernia</td>
<td>66 %</td>
<td>63 %</td>
<td>14 %</td>
<td>63 %</td>
<td>74 %</td>
<td>82 %</td>
</tr>
<tr>
<td>TURP *</td>
<td>3 %</td>
<td>3 %</td>
<td>2 %</td>
<td>2 %</td>
<td>2 %</td>
<td>8 %</td>
</tr>
</tbody>
</table>
Norway: negativ economic incentive

- % D.S. 2007 – 2010: 57 to 59 % - constant rise
- DRG ´reform´ 2010: minus 30 to 70 % =>
- % D.S 2010 – 2014: 59 to 57 % ....

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Day Surgery</th>
<th>In-hospital 1+</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vaginal hysterectomy</td>
<td>11.613</td>
<td>40.978</td>
<td>29.364</td>
</tr>
<tr>
<td>Lumbar prolaps</td>
<td>11.329</td>
<td>27.439</td>
<td>14.043</td>
</tr>
</tbody>
</table>

• Driver: It’s better to come home...

• 2005-2012: 956 op. c. mammae in day surgery department - 80 % of all
  – Mastectomy / Lumpectomi

• Exclusion criteria:
  – BMI > 35
  – Serious hearte- and lungdesease (ASA ≥ 3)
  – Former anaesthetic problems
  – Serious motoric disurbancies
Postoperative routine

- < 30 min. to the hospital: home same day
- Others: 1. night on patient hotel nearby
- Medical indication / alone home: first night on ward
- All ptt.: postop. consultation first postop. day at the hospital
Conclusion

• 80 % DS
• Few not planned admittance postop.
• Few reoperations
• Patients overall highly satisfied:
  – 81 to 93 % (6 quality-questions)
Cochlea implant (Oslo-N)

- Drivers: Economic shortage – fewer beds – adult pt. less priority
- Before: 5 – 10 days at hospital
- Children and adults
- General anaesthesia
Cochlea implant -2

- Now D.S: 80 %
  - Postop. department 2-4 hours
  - Home or
  - Patienthotel if > 1-2 hours to hospital
  - Postop. day 1 control at hospital
- High satisfaction scores
- No more complications
- Staff point of view: OK:
  - Needs good information, planning and fulfils general criteria for DS
Subacute orthopedic fracture surgery

• Driver: all-over quality and logic use of resources
• Increasing focus and demanded
• Several hospitals with 1-2 ‘planned’ theatres
• 25 % of all?
• Ultrasound blocks
Ambulant treatment of recidiv malignant pleura- and ascites-fluid.

- **Celsite Drainaport:** first Nordic experience at AHUS. Oslo: internal system with silicon-port for repeated use.

- **Typical treatment before:**
  - Single drainage with observation for 2-3 days
  - Repeated until death – 10 % of time left..?
  - AHUS: 1200 procedures/year
Celsite Drainaport (2)

- Life expectancy > 3 months
- Local anaesthesia + light sedation/analgesi
- Clinical controll after 10 days
- Drainage at home with ambulating nurse-team when needed
- Total closed system: bath-swim-travel-skiing
- Few complications
- Saved 40,000 NOK/ptt. (4,500 €)
- WIN – WIN - WIN
Serious comorbidity usually contraindicates day surgery, but with a planned setup, **day surgery is possible** in patients with severe cardiopulmonary disease.

Patients with ASA III-IV status referred to a day surgical procedure from 2014 to 2015 were included in the study if anaesthesia with intra-arterial blood pressure monitoring was necessary. 22 patients were included. Infusion of noradrenaline and adrenaline were given in a cubital vein as needed.

**No adverse perioperative events were recorded.**

Three patients were admitted to ward from the department of day surgery, and two patients were readmitted after discharge, all because of minor surgical complications.
The 13 patients telephoned for follow-up the day after the operation reported well-being.

Patients with ASA III-IV status with need for intravascular blood pressure monitoring may be successfully referred to day surgery.
α₁-antitrypsin-disorder:
FEV₁ = 1.35l / PaO₂ = 6.4 kPa

Laparoscopic staging of glandels, Rocuronium + sugammadex + Invasiv monitoring

Operation time: 10.10 - 11.53

Home at: 14.20
Bladderstone – ASA 3+

Aorta-stenoses, gradient 75 mmHg
Valve-area: 0.8 cm²

Propofol – Ultiva – LMA
Intra-arteriel pressure
Noradrenalin 0.05-0.2 µg/kg/min
in large Cubital vein.

Fentanyl 25µg + ketorolac 15mg

Operation 120 min.
Postop: On monitor 60 min.
Total observation 135 min.

Tlf. next day: fine condition.
Home alone - Street fit (Herlev-DK)

• Research by Dr. Jens Engbaek
• Study: alone home overnight after DS...?
  – No: Laparoscopic surgery and shoulder-surgery with block

• Driving car next day?
The future

• National strategy

• Norway:
  – ´From several days to one day´
  – Auditor Generell – help..
  – Change in DRG – financing system?

• Denmark:
  – Danish Regions: 80 % in 2020
  – Building superhospitals – with D.S.-units

• Documentation of quality and quantity
  – Registres
  – Studies

• Apply DS concept to other parts of health sector

• International focus
International focus

• Hvidovre Hospital, Copenhagen – Denmark
  • China: Gansu-province: Intense DS / fast track / short stay development programme

• Ullevål University Hospital. Oslo, Norway. With NORWAC - NGO-humanitarian org:
  • DS – gynecological laparoscopy in GAZA, Palestine
Gynecological laparoscopy in GAZA, Palestine

NO...(?)

- Few resources generally
- Poor education-level
- Cannot read / understand instruction
- Difficulty with transportation and information
- Lack of sanitary and rehab conditions at home
- Low salaries etc.—nothing to save?
- Threat to working stock
DS in Shifa Hospital GAZA -2

• Never DS before...
• Intens education of local personel
• Team and equipment from Norway
• Period: Sept-2015 to Jan-2016 (4 month)
• 137 women - 84% : DS
  – ASA III: 4 ptt.
  – Age 17 – 55 (mean 28)
  – Admittet medical reasons: 14 / social: 3
• The last 70 pasienter: 97% DS...!
• Admittet: 3 – medical reasons
Gynecological laparoscopy in GAZA, Palestine

NO...

- Few resources generally
- Poor education-level
- All with grammar-school +
- Cannot read / understand instruction
- Reads-understand English
- Difficulty with transportation and information
- Lack of sanitary and rehab conditions at home
- Low salaries etc.—nothing to save?
- Can release resources
- Threat to working stock
- Not quit but change function—lot of tasks
- ++ All have mobile-phone, internet access ok
- Large families, + unemployment, back up at home is good

YES....
Thank you for your time...

Please contact our Scandinavian delegates

- Visits
- Education
- Documentation
WHY AND HOW?

• Competence
• Team-approach
• Political and economic system
  – Public hospitals and clinics
• Physical and organizational capacity
  – Understanding the model...
    • Oslo/Hvidovre/Aarhus
• Demand and expectations from patients
• Win - win – win
  – Use of ressources – effectivity - quality
Flere dagkirurgiske behandlinger fra 2007 til 2014
...men ikke en dreining fra døgn- til dagbehandling
Et skifte i utviklingen etter 2010
Hva lønner seg for RHF-ene, HF-ene og avdelingene?
Mangelen på en *satsing* på mer dagkirurgi

<table>
<thead>
<tr>
<th>Behandlinger</th>
<th>Dagkirurgiske DRG-er</th>
<th>Døgnkirurgiske DRG-er</th>
<th>Prisdifferanse for dag- og døgnkirurgi</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DRG</td>
<td>Pris</td>
<td>DRG</td>
</tr>
<tr>
<td>Fjerning av livmor</td>
<td>357O</td>
<td>11 613 kr</td>
<td>357</td>
</tr>
<tr>
<td>Fjerning av eggstokk og eggleder</td>
<td>359O</td>
<td>6 185 kr</td>
<td>359</td>
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<tr>
<td></td>
<td>358</td>
<td>33 151 kr</td>
<td>26 966 kr</td>
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<td></td>
<td>355</td>
<td>33 230 kr</td>
<td>27 045 kr</td>
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<tr>
<td>Skiveprolaps og dekompresjon av nerverøtter</td>
<td>215O</td>
<td>11 329 kr</td>
<td>215C</td>
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<tr>
<td></td>
<td>214C</td>
<td>41 262 kr</td>
<td>29 932 kr</td>
</tr>
<tr>
<td></td>
<td>2158</td>
<td>52 291 kr</td>
<td>40 962 kr</td>
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<tr>
<td>Gallestenoperasjon</td>
<td>494O</td>
<td>9 736 kr</td>
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<tr>
<td></td>
<td>493</td>
<td>35 550 kr</td>
<td>15 100 kr</td>
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<tr>
<td>Lyskebrokkoperasjon</td>
<td>162O</td>
<td>4 181 kr</td>
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<td>9 546 kr</td>
<td>5 365 kr</td>
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<td>14 090 kr</td>
<td>9 909 kr</td>
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<tr>
<td>Fjerning av mandler</td>
<td>600</td>
<td>3 234 kr</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>59</td>
<td>7 195 kr</td>
<td>3 960 kr</td>
</tr>
</tbody>
</table>
ENDPOINTS

• Primary endpoint
  – % day surgery

• Secondary endpoint
  – Admittance after daysurgery
  – Reoperations
  – Patient satisfaction
## RESULTS

<table>
<thead>
<tr>
<th></th>
<th>Operations central op-department</th>
<th>Operations at day surgery department</th>
<th>Admittance ward</th>
<th>Reoperations after DS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>33</td>
<td>93</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>2006</td>
<td>27</td>
<td>114</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>2007</td>
<td>32</td>
<td>130</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>2008</td>
<td>27</td>
<td>129</td>
<td>4</td>
<td>2</td>
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<tr>
<td>2009</td>
<td>23</td>
<td>120</td>
<td>5</td>
<td>2</td>
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<tr>
<td>2010</td>
<td>36</td>
<td>121</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>2011</td>
<td>28</td>
<td>110</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>2012</td>
<td>33</td>
<td>139</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>239</td>
<td>956</td>
<td>48</td>
<td>13</td>
</tr>
</tbody>
</table>
Patient satisfaction

% answer: Very good – satisfying – No: 100 2005-11
Laparoskopi prosjekt på Shifa Universitetssykehus:

Før prosjektet nesten bare laparotomier
Vanskelig å få inn utstyr
umulig å sende folk ut for å trene
NORWAC prosjekt:
hjelp til selvhjelp: utstyr, opplæring, mester-svenn
3 dager teori kurs, ispedd tørr
trening og demo-operasjoner, eksamen
Flere dager «hands on» med 9
4 gynekologer, 3 op.spl, 1 (3) anestesileger
Oppstart uke anestesi+operasjon
Stafett av norske gynekologer utover
• Diagnoser:
• Infertilitet 68 (50%)
• Cyster 31
• Endometriose 19
• Sterilisering 10
• Annet 8
Percent day surgery

Percentage of surgeries performed as day surgery

2005 2006 2007 2008 2009 2010 2011 2012

- Percentage of surgeries performed as day surgery
- Mean
Pasientflyt etter CI-utredning

**Preop vurdering pol 2-3 uker før op**
- generell undersøkelse
- journalskriv
- audiopedagog

**Dagkirurgen**
- møter kirurgen
- operation
- postop overvåkning 2-4 tim
- hjem / pasienthotell hvis > 1-2 tim vei

**Postop pol-besøk**
1 dag etter op (lege, sårkontroll)
Overnattning postop

• Fornøyd med å sove på pasienthotell? 15/16
• Fornøyd med å sove hjemme? 19/20
• Fornøyd med å sove på sengepost? 13/15
Oppsummering

Cl as DS is:
- sikkert for pasientene
- godt tolerert av pasientene
- effektivt ressursbruk ( - 4-5.000 €/DS pt.)

...forutsatt god information, planlegging, og at pasientene oppfyller generelle kriterier for dagkirurgi.