

## Breast cancer surgery in a day case setting: Where do the Netherlands stand in 2004?

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### Abstract

To assess to what extent day case surgery for breast cancer is practised in the Netherlands a questionnaire was sent to 105 surgeons/hospitals. In 2004, 30% of the hospitals performed minor and 3% performed major breast cancer surgery in a day case setting. Sixteen percent of the hospitals indicated planning to introduce day case surgery for minor and major breast cancer surgery. The basic requirements for this development are widely available. Potential obstacles can be overcome by adjustments in organisation, logistics and financial reimbursement, thus making day case surgery available to more patients while reducing health care costs.

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### 1. Introduction

Breast cancer is the most common cancer among women in the Netherlands with 11,300 new cases per year in 2000 [1]. Most of these women undergo surgical treatment during a hospital admission with a mean length of stay (LOS) of 4.1 days in 2003 [2]. Hospital admission is one of the largest cost contributors in the total treatment of breast cancer [3,4].

The introduction of the sentinel lymph node procedure reduced the invasiveness of the surgical treatment for breast cancer for a large part of the breast cancer patient population thus reducing the need for clinical care. In addition, the introduction of specialised breast care nursing (BCN) facilitated adequate pre, peri and postoperative education and counselling of patients. Positive results from studies assessing day case and ultra-short stay on feasibility, emotional well-being and safety in other countries and health care systems [5–7] led to the development of a fast track breast cancer surgery programme in our hospital in

2001. Introduction of the programme reduced the mean LOS from 3.7 days in June 2000 to 1.1 days in 2002. Forty-six percent of the cases were performed in a day case setting and a further 35% was discharged after an overnight stay (unpublished data). Subsequently, this fast track breast cancer care programme became daily practice.

Key elements in this care programme are a well-organised care process, with surgical and anaesthetic care according to modern standards, with a prominent role for the breast care nurse giving extensive education and counselling to the patient and informal carer, on wound and drain management, on physical activity and independence, emphasizing the advantages of home recovery and coordinating outpatient, inpatient and home care.

An increasing number of hospitals expressed their interest in copying the programme. To what extent breast cancer surgery in a day case setting is performed in Dutch hospitals in 2004, is unknown.

Neither is it known to what extent the above key elements are being practised outside a comprehensive fast track care programme. The aim of this study was to evaluate the current practice of breast cancer care in view of the implementation of day case surgery and to give an insight into the willingness

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to introduce this together with the real or perceived obstacles when organising day case surgery for breast cancer in the Netherlands.

## 2. Patients and methods

For evaluation of the current state of breast cancer care key elements for a successful day case surgery programme were identified. To that end items describing general aspects of organisation of breast cancer care were defined. These are preoperative (presence of a breast unit, BCN or NP, education and counselling), perioperative (anaesthetic screening and anaesthetic techniques, logistics concerning the sentinel lymph node procedure and image guided localisation, type of surgeon performing the surgery, length of hospital stay) and postoperative aspects of care (availability and degree of home care nursing facilities). Perceived obstacles and necessary conditions when organising day case surgery were recorded.

A written questionnaire was developed consisting of 32 multiple choice and open questions. For answers on incidence it was recorded if they were based on estimates or on actual data base figures. The questionnaire was sent to the surgeon most involved with breast cancer treatment employed in the surgical units of 105 hospitals performing breast cancer surgery. They were asked to complete the questionnaire in cooperation with the breast care nurse, if available. Reminders were sent one month later, followed by a telephone call to the surgeon or breast care nurse 2 months later.

## 3. Results

Seventy-six of the 105 questionnaires were returned. Table 1 shows the number and percentages of returned questionnaires in relation to the type of hospital.

### 3.1. Organisation of care

General and organisational aspects of care for the different types of hospitals are described in Table 2.

Table 1

Number and percentages of returned questionnaires

	Numbers sent	Numbers returned <sup>a</sup> (%)
University hospitals (UH)	8	7 (87%)
Teaching hospital (TH)	39	31 (79%)
Non-teaching hospital (NTH)	58	38 (66%)
Total	105	76 (72%)

<sup>a</sup> No significant difference ( $p=0.075$ ).

#### 3.1.1. Preoperative

Eighty-five percent (65/76) of the hospitals have a breast unit. Fig. 1 shows the services that are available within the breast unit as advised by the Dutch guidelines (based on the BASO guidelines) [8]. Multidisciplinary outpatient consultation was available in less than a third of the hospitals.

A breast care nurse or nurse practitioner (NP) was absent in two hospitals. In 11 hospitals, both BCN and NP were available. In all cases, the BCN and/or NP was introduced to the patient preoperatively. The degree in which the different aspects of the job specification of the BCN and NP were fulfilled varied widely (Table 3). Communication with and education of the patient concerning the diagnostic process, treatment options and surgical procedures were in most cases performed by the surgeon as well as the BCN or NP. This verbal information was supported by leaflet information in 75/76 hospitals.

#### 3.1.2. Perioperative

In 89% of the hospitals, it was possible for anaesthetists to screen patients preoperatively in an outpatient setting. Generally, all types of surgical procedures varying from excision biopsies to modified radical mastectomy were performed under general anaesthesia. In very few hospitals, the excision biopsy, (re)lumpectomy and sentinel lymph node procedure were performed under local anaesthesia (2, 1 and 2 hospitals, respectively).

The organisation of the sentinel lymph node procedure and image guided localisation are described in Table 2.

In 3% of the hospitals, breast surgery is exclusively performed by breast surgeons (>50 primary breast cancer surgery procedures per annum), in 14% breast surgery is performed by the general surgeon and in 30% of the hospitals breast

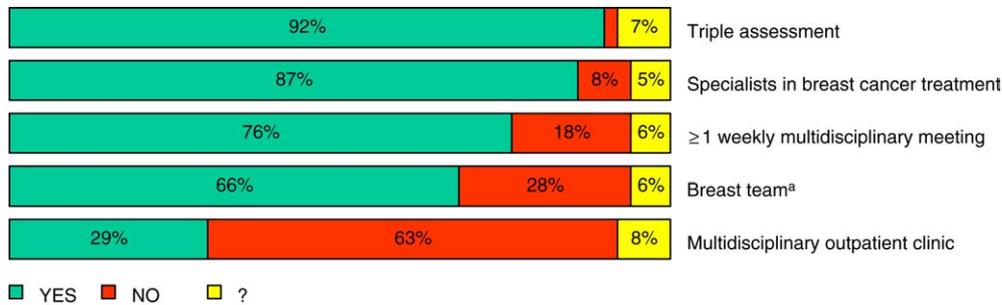
Table 2

General and organisational characteristics

General and organisational characteristics	7 UH <sup>a</sup>	31 TH <sup>a</sup>	38 NTH <sup>a</sup>
Number of beds	816 (291; 460–1283)	612 (167; 300–900)	350 (192; 120–1300)
Number of patients diagnosed with breast cancer yearly	133 (25; 100–163)	194 (92; 80–450)	124 (67; 50–350)
Number of operations yearly	212 (47; 150–279)	232 (115; 70–500)	140 (78; 40–400)
Percentage of surgical staff members performing breast surgery	17 (12; 6–40)	47 (25; 14–100)	63 (25; 25–100)
Outpatient preassessment clinic anaesthesiology	100%	90.3%	84.2%
Department of nuclear medicine available in the hospital	100%	93.5% <sup>b</sup>	52.6%
1 day or 2 days sentinel lymph node procedure	6/7	15/31	17/38
Only 1 day sentinel lymph node procedure	1/7	7/31	10/38
Only 2 days sentinel lymph node procedure	–	8/31	11/38
Image guided localisation available in the hospital	100%	100%	100%

<sup>a</sup> Mean (S.D.; min.–max.).

<sup>b</sup> In one hospital the sentinel lymph node procedure is not performed in patients with breast cancer.



<sup>a</sup>Breast team: surgeon, radiologist, pathologist, radiotherapist, medical oncologist and breast care nurse.

Fig. 1. Organisation of breast units.

Table 3  
Tasks performed by the BCN and NP

Tasks	BCN (n = 70) <sup>a</sup> (%)	NP (n = 16) (%)
1. Giving nursing care to the patient with breast cancer and their relatives	63 (90)	12 (75)
2. Has the final responsibility for the coordination of the care for the patient with breast disease	25 (36)	12 (75)
3. Has the final responsibility in logistics of care of the patient with breast disease	21 (30)	14 (87)
4. Stimulates the expertise of the nurses involved in the care for the patient with breast disease	66 (94)	16 (100)
5. Does research or implements study results	23 <sup>b</sup> (33)	16 (100)
6. Takes anamnesis and performs physical examination during the diagnostic proces	7 (10)	14 (87)
7. Independently gives consultation for wound control	40 <sup>b</sup> (57)	14 (87)
8. Independently gives consultation for follow-up	18 <sup>b</sup> (26)	14 (87)

<sup>a</sup> Oncology nurse working at the breast unit is added to the BCN.

<sup>b</sup> One time question not answered.

surgery is performed by the surgical oncologist or breast surgeon [9]. In the remaining hospitals breast surgery is performed by a combination of the breast surgeon, surgical oncologist and general surgeon.

The mean estimated LOS was 1–2 days in 5% of the hospitals, 2–3 days in 26%, 3–4 days in 29%, 4–5 days in 17% and 5–6 days in 11%. For the remaining 12% the LOS was not disclosed. Fourteen percent of the data was retrieved from databases.

### 3.1.3. Postoperative

In addition to the surgeon, the specialised nurses (BCN or NP) played an important role in giving psychosocial support to the hospitalised patient. In 5/76 hospitals, a general nurse on the nursing ward had this task. In 59/76 (78%) hospitals, patients were discharged with a telephone number that could be reached 24 h a day.

Supportive care at home by the home care organisation for uncomplicated wound care, drain care or psychosocial support is not available after discharge in 11/76 (15%) hospitals. In 38/76 (50%) hospitals, all three care aspects can be offered. Home care nursing is available the evening of discharge after day case surgery in 9/65 hospitals, in 14/65 hospitals it is available the day of discharge and in 29/65 it is available the day after discharge. In 4/65 hospitals, home care nursing is available at the specific request of the patient or at a later point in time. Nine times the question remained unanswered. Home care nursing is in 7/65 performed by a nurse specialised in breast cancer care and in 46/65 cases by

non-specialised nurses. The question was not answered 12 times.

### 3.2. Day case surgery

In 2/76 hospitals, simple mastectomy with or without sentinel lymph node biopsy (SLNB) or an axillary lymph node dissection (ALND) with or without breast conserving surgery (BCS) is generally performed in a day case setting. Modified radical mastectomy (MRM) was usually not performed in a day case setting (Table 4).

#### 3.2.1. Obstacles and necessary conditions for success

Table 5 shows the most frequently perceived obstacles for breast cancer surgery in a day case setting. Six surgeons did not answer the question.

Table 4  
Type of surgery generally performed in a day case setting

	Yes	No	?
Excision of benign breast lesions	75	1	–
Excision biopsy suspect for breast cancer	65	8	3
(Re)lumpectomy	54	21	1
(Re)lumpectomy and SLNB	23	52	1 <sup>a</sup>
ALND	2	72	2
(Re)lumpectomy and ALND	1	75	–
SM	2	74	–
SM and SLNB	1	73	2 <sup>a</sup>
MRM	0	76	–

<sup>a</sup> Question was answered with not applicable/type of surgery is not performed.

Table 5  
Anticipated problems with breast cancer surgery in a day case setting

Problem	Frequency, <i>n</i> = 70
<b>Technical medical</b>	
Drain	20
Major wound surface (simple mastectomy/axillary dissection/direct reconstructions)	18
Postoperative pain management	14
Complication (rebleed/infection)	12
None	11
Other (seven aspects)	17
<b>Organisational</b>	
Sentinel lymph node procedure–image guided localisation–operation schedule–combination	10–6–6–5
None	12
Infrastructure for education and counselling	9
Home care nursing	5
Other (nine aspects)	9
<b>Psychosocial</b>	
Unreliable home situation/singles–older patient	13–10
Counselling during hospitalisation (nurses, peers)	18
Fear, emotional well-being and coping problems	13
Wish or expectation of patient or relative	11
Wound confrontation	6
Other (12 aspects)	18

At the time of the questionnaire, 12/76 surgeons had actual plans to start day case surgery for all types of surgical procedures for breast cancer. Fifty-seven surgeons indicated necessary conditions for success. Most frequently mentioned conditions for success were: good organisation of after care and home care ( $n=18$ ), extensive education, counselling and perioperative care ( $n=14$ ), organisational and logistical adjustments and fine tuning ( $n=10$ ), guaranteed patient satisfaction and the patient being allowed to choose to be discharged or not ( $n=9$ ), inclusion of patients with low comorbidity scores, only inclusion of lumpectomies with SLNB and simple mastectomies (SM) with SLNB or less and adequate pain control ( $n=9$ ), increased employment and greater job responsibilities for the BCN ( $n=4$ ) and financial compensation for introducing day case surgery ( $n=4$ ).

#### 4. Discussion

In 2004, breast cancer surgery is mainly practised in an inpatient clinical setting. Minor surgery, e.g. lumpectomies and lumpectomies with SLNB, are performed in, respectively, 71 and 30% of the hospitals in a day case setting, but major breast surgery (SM, ALND and MRM) is only rarely performed in a day case setting. The survey indicates that there is an interest in day case surgery for all types of breast cancer surgery.

For successful implementation of day case surgery in all Dutch hospitals, a thorough analysis should include patients, health care professionals and the context of the care process.

It is essential to make an inventory of the current practice of all involved disciplines and to identify real and perceived obstacles as well as promoting factors for the individual health care professional, the social environment and the health care system [10]. For the current survey the surgeons were chosen as the target group, as they are the coordinators of care during the diagnostic process and the primary treatment of breast cancer. This makes the surgeon the most important initiator of innovations of the care process. Without his cooperation implementation of day case surgery is doomed to fail.

Using a questionnaire for data collection may introduce a selection bias together with a risk of having estimates rather than actual figures. These aspects should be taken into consideration while interpreting the results.

Surgeons indicated that intramural and extramural education and counselling of the patient is the most important factor in introducing day case surgery. Breast care nurses and specialised nurse practitioners are very well capable to address these aspects of care and are already available in most hospitals. The current involvement of the BCN and the home care nursing organisation in the care process of the breast cancer patient is very diverse and in many cases insufficient for day case surgery. To facilitate day case surgery BCN's in many hospitals should spend more time with the patient and should be given more responsibilities. To provide continued quality of care the home care organisation should entail updated specialised care from the moment of discharge onwards. Finding adjustments in the reimbursement system could also contribute to the implementation of day case surgery.

Patient satisfaction is frequently stated as an important factor for success in day case surgery. Improvement of patient care and satisfaction is one of the strongest motives for health care professionals to change practice. Despite the fact that the literature suggests that day case surgery patients are happier, recover sooner, are better socially adjusted and show an improved emotional well-being compared to hospitalised patients, day case surgery is often not perceived as an improvement for the patient, mainly because of the fear of emotional distress [6,7,11–14].

The most frequently mentioned medical problems associated with day case surgery are discharge with a drain, risk of complications and pain in the home situation. Various studies describe different solutions to the drain problem: sending the patient home with a drain but with adequate preoperative education and counselling, adequate nursing support at home, axillary padding or simply not using a drain after an ALND [5,6,15–21]. Furthermore, no increase in complication rate is seen after day case surgery and postoperative pain is often adequately controlled with local wound infiltration and oral analgesics [7,18,22–24]. The majority of the unplanned admissions are caused by postoperative nausea and vomiting. With ongoing anaesthetic improvements these postoperative complaints may decrease [18]. Although it is often arbitrarily stated that surgical procedures in the day case setting should not last more than 1 h, in our experience procedures up to 2 h present no difficulties.

Inclusion of the sentinel lymph node procedure with or without image guided localisation in the day case setting have necessitated adaptation in hospital routines as they are associated with more complex planning procedures. The results of the questionnaire show that irrespective of the setting in which the sentinel lymph node procedure is performed and even in the absence of a nuclear medicine department in the hospital, the performance of the sentinel lymph node procedure in a day case setting was possible.

The patient choosing to be admitted on the day of surgery is mainly caused by a lack of feeling safe and of fear for postoperative pain at home [25]. Such inclinations should be curbed by giving detailed education and counselling on these care issues in the pre, peri and postoperative outpatient setting and in the home situation.

Contrary to the conviction of some surgeons, there are definite psychosocial advantages for the patient who is treated in a day case setting. They adjust emotionally better and tend to have less psychological distress symptoms compared to hospitalised patients [7]. Patients feel in control of the situation, tend to downgrade the seriousness of the operation and are more keen to recover [6,16]. Furthermore, sick leave of patients is shorter if treated in an outpatient setting [7,26].

The vast majority of the medical, organisational and psychosocial problems feared by surgeons when starting ambulatory breast cancer surgery can be resolved. The basic infrastructure that is required for day case surgery, the breast unit, is available in most hospitals, albeit that the contribution of both the BCN and district nurse in the care process should be expanded. With the patient at the centre of the care process and with a well organised team, day case surgery will be accessible for a larger number of patients while at the same time reducing health care costs.

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