eons newsletter

The Quarterly Newsletter of the European Oncology Nursing Society Winter 2006

Contents:

Editor in Chief
Jan Foubert, RN, MSc

Editorial Board
Steve O'Connor, MSc., Grad Dip Onc., RN
Carol Krcmar, RN, MN
Emile Maassen, RN, CRN

The goal of the EONS Newsletter is to inform nurses about EONS and its activities and to provide a forum for cancer nurses throughout Europe to network. The information published in the EONS Newsletter is intended to inspire nurses to improve the care of the cancer patient through improved knowledge.

All correspondence should be addressed to the Editor-in-Chief at:
eons@village.uunet.be

EONS Secretariat
Rudi Briké
Avenue E Mounier 83/4
B-1200 Brussels, Belgium
Tel: + 32 (2) 779 9923
Fax: 32 (2) 779 9937
E-mail: eons@village.uunet.be
Web site:
www.cancereurope.org/EONS.html

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Letter from the Editor

Eating a healthy diet and maintaining a healthy body weight is relatively easy for most of us in the nursing profession. But what about the patients that we care for? Problems ingesting a balanced diet combined with problems related to digesting nutritional foods compounded by an altered metabolic state may all contribute to malnourishment in cancer patients.

The first step in the nutritional care of a cancer patient is a thorough nutritional assessment as highlighted in the article "Nutritional Status Screening by Nurses" contributed to this issue of the EONS Newsletter by Jean K. Brown from the State University of New York at Buffalo, USA. She advocates that all cancer patients should have a regular evaluation of nutritional status, starting at the time of diagnosis, and continuing throughout treatment. The importance of a standardised and systematic nutritional assessment cannot be overemphasised. The purposes of nutritional assessment are: (1) to determine if a patient has, or is at risk of developing, malnutrition or specific nutrient deficiencies, (2) to quantify a patient's risk of developing malnutrition-related complications, (3) to provide guidelines for short- and longer-term nutritional support, and (4) to monitor the adequacy of nutritional therapy (Bloch, 1993; Harrison & Fong, 1997; Mutlu & Mobarhan, 2000; Langer et al, 2001).

Often we look at our patients and determine that they are underweight. But how do we identify those patients that are malnourished? Nutritional assessment should preferably be combined with a careful evaluation of functional capacity and quality of life to ensure that nutritional support is tailored to the patient's needs and easily implemented. To learn more about nutritional assessment, please read the excellent article on this topic written by Claire Shaw in this issue.

The nutritional needs of the critically ill cancer patient are often overlooked and overshadowed by the hectic pace on the intensive care unit. In the article by de Jabrun Alys we can read that although providing nourishment to the critically ill patient was a much debated issue in the past, clinical evidence supporting the need to provide nutritional support in the acutely unwell has significantly challenged this statement.

Through the NOEP project, EONS has shown that nurses have an interest in learning more about nutrition and that training in the field of nutrition is needed. Several countries have run NOEP courses (see previous EONS newsletters and the EONS website for more details) and EONS has emphasized the importance of assessing and addressing nutrition in cancer nursing by putting this topic on the programme of several educational conferences including the last ECCO conference in Paris.

EONS will do everything possible to keep nutrition on the nursing agenda and we hope that the content of this newsletter will help nurses in Europe to continue to have an interest in this topic and to incorporate nutrition into their daily practice.

Call for Nominations for Distinguished Merit Award

EONS is pleased to announce a call for nominations for the Distinguished Merit Award. The Distinguished Merit Award is presented to an individual in recognition of their outstanding contribution to the advancement of the art and science of cancer nursing within Europe. This includes, but is not limited to, advancements made in the areas of practice, research and/or education. In addition to this, the successful individual may well be someone who has contributed to strengthening or enhancing the profession of cancer nursing through community work or political/lobbying activities.

The Award is granted every two years and presented at the European Cancer Conference (ECCO 14) which will take place in Barcelona, Spain from the 23rd to 27th of September 2007.

Eligible for the award are registered nurses actively engaged in clinical practice, management/administration, teaching, research, consulting or in some other professional position where they have played an innovative role in cancer nursing beyond that which would normally be expected of them in their particular position. Nominees should be members of EONS, living and working in Europe.

The recipient of the Distinguished Merit Award is required to deliver an honorary presentation highlighting his or her achievements in furthering cancer nursing at the ECCO 14 conference. Registration fees for the conference will be waived and the recipient of the award will be presented with a commemorative scroll.

The deadline for submission of applications is January 31st 2007. Further information can be obtained by contacting the EONS Secretariat or at www.cancerworld.org/eons

Our colleagues from.....

Greece

The History of the Society
The Hellenic Oncology Nursing Society was established in 1987 by nurses who were working at that time primarily in oncology hospitals. The society is a sector of the Hellenic Nurses Association. Today there are approximately 300 nurses who are members of our society. Members work in all areas of cancer care and are dedicated to finding answers for patients with cancer and their families.

The Goal of the Society
The Hellenic Oncology Nursing Society (HONS) has an active role in the development of cancer nursing through the provision of education to help nurses who care for people with cancer.

The Goals of the Society are:
- To improve the care of cancer patients and their families.
- To educate nurses on cancer care and contribute further to knowledge related to the development of cancer nursing.
- To conduct and/or promote research in cancer nursing.
- To improve the professional status of the nurses in Greece.
- To increase the number of members of HONS.
- To collaborate and make connections with national and international cancer organizations.

Structure of HONS
The headquarters of HONS is located in Athens. The Society is governed by a board of five members who are elected for a four-year period and may be re-elected. The current members of the board are: D. Pappa (President), C. Kouloukoura (Secretary), D. Papageorgiou (Treasurer), A. Kambitsi (Member) and E. Charalambidou (Representative and President of the Hellenic Nurses Association).
The board cooperates closely with the Hellenic Nurses Association Executive Committee. The members of HONS are also members of the Hellenic Nurses Association and pay an annual membership fee to the Association.

Benefits for Members
All members receive a monthly newsletter published by HONS, the EONS Newsletter, the official journal of the Hellenic Nurses Association, and the official multidisciplinary journal of the Hellenic Cancer Society. The journals are published four times per year. Articles and research studies on cancer nursing practice, palliative care, and patient and family psycho-social issues have been published. Members are encouraged to share their knowledge and experiences by publishing articles in our journal and newsletter. Moreover nurses receive information about oncology educational activities at the national or international level and about other activities of HONS through our publications.
All members of HONS are eligible to be nominated to participate in national and/or international meetings or oncology courses on behalf of the Society. Finally, they also have the opportunity to apply for a scholarship to attend an international conference or other educational programme.

Educational Initiatives
The Society has been organizing courses in cancer nursing for several years. During these courses, oncology nurses and nurses who have a special interest in oncology come together to learn, grow and connect. At study days, which are held seven to eight times a year, health professionals from different disciplines speak on topics of relevance to cancer and supportive care.
The 'Cancer Care: priorities for nurses' programme, developed by EONS, has been used by HONS as a guideline to organize short courses. To date, more than 1000 nurses have attended the courses on altered body image, nausea and emesis, psychological disorders, fatigue and pain. In 2003, a course on principles of chemotherapy administration and safe handling of chemotherapy agents received accreditation through the EONS Accreditation Council. From 2003 to 2005, small group courses took place in Patra, Halkidiki, Cyprus and Athens. The Society has plans to publish a book based on this course. More recently, HONS organized the first TITAN course in Athens with support from Amgen (Greek regional office).

In 1999, the Society organized a research seminar that focused on research methods and on topics related to the phases of developing ideas into a research project. The aims of the seminar were to help practitioners understand the research process, to support research in clinical settings, and to foster research-based practice. At the end of the programme, the participants undertook a research study which was supervised by an academic nurse. Working in collaboration with oncology hospitals and oncology units based in general hospitals, the nurses conducted a study to examine the Hellenic registered nurses' perceptions regarding barriers to implementing research findings in cancer care. The research team was awarded with the EONS-Roche 2001 research grant.
Other members of HONS have received the EONS Novice Researcher Award, the EONS-Roche 2003 Research Grant and awards given by the Hellenic Nurses Association for their research studies.
Cancer nursing is not yet a recognized specialty in Greece. However, the University of Athens offers a two-year master's degree programme in cancer nursing and palliative care. In 1996, the Ministry of Health approved a 500-hour post-graduate cancer nursing course.

Associations with other Organizations
The Society is well-known in Greece and works in collaboration with other organizations at the national level. We are collaborating with the Hellenic Cancer Society, the Hellenic Society of Medical Oncology, the nursing school in Athens University and the Oncology Center in Cyprus. In close collaboration with the Hellenic Cancer Society, we are running a multidisciplinary course in supportive and palliative care that received accreditation through the EONS Accreditation Council.
Continued collaboration with EONS is very important for HONS: we have been a member of EONS for many years.
We are aware that language is an obstacle to optimal communication and a structured approach to dealing with the problem is lacking. The translation of important EONS projects into Greek is very helpful to foster communication between our members and EONS.
In the future, we hope to increase the activities of HONS and develop further our collaboration with EONS. We believe that we have to evaluate, change, improve and think in creative ways in order to meet the new challenges in cancer care.

Cancer related malnutrition: Is it important?

Clare Shaw PhD RD, Consultant Dietitian, The Royal Marsden NHS Foundation Trust London and Sutton

We often hear that we have increasing levels of obesity in the population across Europe. Research has shown that obesity is a risk factor for the development of certain types of cancer. But what about the patient who has cancer – how good are we at detecting weight loss and malnutrition and at implementing appropriate support for the patient?

Does it matter if patients lose weight?
Weight loss in an individual alters body composition and bodily functions. The body loses a combination of fat and muscle mass depending on the degree of reduction in food intake and any additional factors such as metabolic changes or stress that may occur simultaneously. Often muscle function is affected before any detectable changes occur in muscle mass (Stratton et al, 2003). Weight loss and malnutrition also impact on the immune system making the patient more vulnerable to infection and possibly causing a delay in wound healing. Other bodily functions may be affected including dysfunction of the gastrointestinal tract.

Weight loss in cancer patients may confer risks that affect general health, the quality of life and the ability to tolerate cancer treatment. A retrospective study of 1555 gastrointestinal cancer patients undergoing chemotherapy for advanced disease showed that those patients who had lost any weight prior to starting chemotherapy had a poorer survival (Andreyev et al, 1998). The poorer treatment outcome in patients with weight loss was reportedly due to a reduction in dosage of chemotherapy (necessary because of the patients' poor nutritional state) and a greater incidence of experienced adverse events. This study also reported that those patients who continued to lose weight had a poorer failure free survival than those whose weight stabilised.

Weight loss prior to surgery increases the risk of patient morbidity often coupled with longer hospital stay and reduced quality of life. Increased complications occur in the malnourished surgical patient including delayed wound healing, increased infection rates and longer rehabilitation times. All these may contribute to a poorer quality of life and an increased use of health care resources (Stratton et al, 2003).

Losing weight may have detrimental health consequences for the cancer patient. Work carried out by Spiro et al, 2006 indicated that the majority of oncologists questioned felt that significant weight loss would have a major impact on the patient's mortality, morbidity, hospital stay, quality of life and toxicity from treatment.

How do we identify malnourished cancer patients?
Many European publications have highlighted the need to detect and provide appropriate support for the patient who is identified as malnourished. There is no consensus as to which is the best screening tool to use, but the need to identify normal weight, current weight, weight loss, height, and any problems with food intake are crucial to an adequate screening of patients. Any screening that only relies on current body mass index (BMI) of patients will miss patients that have lost weight and are below their normal weight in our increasingly overweight population. A screening tool must therefore be quick and easy to use both in the outpatient and inpatient setting and must provide the relevant information to identify those who are malnourished or at risk of malnutrition. A variety of tools to screen for malnutrition are available throughout Europe although these tools may not be specific to cancer. The European Society of Enteral and Parenteral Nutrition recommends a number of screening tools in their guidelines for nutrition screening published in 2002 (Kondrup et al, 2003).

An interesting paper published recently highlighted that many specialist oncology trainees lacked the ability to identify factors that place patients at risk of malnutrition (Spiro et al, 2006). When presented with case scenarios nearly half of those questioned failed to recognise the basic requirements of assessing nutritional status. This appeared to relate to their medical undergraduate nutrition lectures, emphasising the importance of nutrition education in undergraduate training. The study also raised the issue of the knowledge base on nutrition of other health care professionals and their ability to identify patients at risk of malnutrition and refer them for appropriate advice and nutrition support.

Outpatients may be at particular risk of being properly assessed for malnutrition. Recent research by Baldwin et al (2006) highlighted the failure to refer out patients to the dietitian when they attended an oncology clinic. Of a sample of 920 patients, 24% had lost more than 5% to10% of their normal body weight and 32% had a greater than 10% weight loss; however, a significant proportion of patients was not referred to the dietitian. Of those with significant weight loss (>10%), 40% were not identified and referred to the dietitian during the following 12 month period.

McWhirter and Pennington (1994) found that malnourished patients require a clear and comprehensive care plan to address nutrition. Failure to do so often means that nutritional status continued to deteriorate in hospital patients.

Once the malnourished patient or potentially malnourished patient has been identified, a full nutritional assessment should be conducted. Who carries out this assessment may vary depending on the availability of different health care professionals. The registered dietitian is the ideal person to undertake a full assessment but in some European countries this role may be carried out by a trained nurse or physician.

Why is it important to provide nutritional support?
Good research studies to support the effect of nutritional support in cancer patients are few and no studies found showed an improvement in survival from such support. However some new studies show the importance of nutrition and how dietary counselling and oral nutrition supplements can influence dietary intake, nutritional status and quality of life function scores for patients undergoing radiotherapy (Ravasco et al, 2005).

Recommendations specific to nutritional support in non surgical oncology were published by the European Society of Enteral and Parenteral Nutrition in 2006 (Arends et al, 2006). These are based on all relevant publications since 1985 and offer graded evidence depending on the strength of the research publications. The grade A recommendations are listed in Table 1. They fully support the frequent nutritional assessment of cancer patients aimed at early detection of malnutrition and appropriate nutritional support if it is anticipated that the patient will be unable to eat for more than seven days. The seven day recommendation for feeding is not supported by all guidlines and a recent UK publication recommended that patients should not be left for longer than five days without receiving nutritional support (NICE, 2006). The difference of opinion in such documents highlights the need for health care organisations to use these documents as a basis for their own practice and develop local guidance with the structure to support implementation.

The absence of evidence that nutritional support promotes tumour growth means that these theoretical considerations should not influence the decision to feed a cancer patient.

Table 1
Summary of Grade A recommendations for nutrition support in non-surgical oncology: ESPEN (Arends et al, 2006)

Subject	***Recommendation***
Perioperative	Patients with severe nutritional risk benefit from nutritional support 10–14 days prior to major surgery even if surgery has to be delayed.
Perioperative	Use preoperative enteral nutrition preferably with immune modulating substrates for 5–7 days in all patients undergoing major abdominal surgery independent of their nutritional status.
During radio or radio-chemotherapy	Use intensive dietary advice and oral nutritional supplements to increase dietary intake and prevent therapy-associated weight loss and interruption of radiation therapy
Application	Prefer the enteral route whenever feasible
Drug treatment	In cachectic patients steroids or progestins are recommended in order to enhance appetite, modulate metabolic derangements and prevent impairment of quality of life

How do we manage malnutrition?
Once malnutrition has been identified it is important that this aspect of care is planned conjunctively with cancer treatment. Important consideration should be given to symptoms, treatment plan and appropriate timing of nutritional support. Studies have shown that the patient's symptoms, particularly when the patient is experiencing more than one symptom, are closely linked with reduced food intake and weight loss. The holistic approach to patient care should identify factors which can be managed by appropriate medication and intervention that may ultimately help promote food intake.

The treatment plan for the cancer patient may continue over many months, often with different treatment modalities being used sequentially or concurrently. It is necessary to look ahead and anticipate future problems to be able to plan nutrition effectively. For example, consider enteral tube feeding for patients having head and neck radiotherapy and pre operative nutritional support for the malnourished cancer patient.

The interaction of nutritional support with treatment and vulnerable periods for the patient should also be considered. The timing of gastrostomy placement may be influenced by the timing of chemotherapy and at a time when the patient is more susceptible to infection.

Provision of nutritional support should preferably be by the enteral route using the gastrointestinal tract wherever possible. Parenteral nutrition should be reserved for patients who do not have a functioning gastrointestinal tract as it has been shown to confer more risks to the patient, particularly in terms of infection. The initial approach for patients is to provide dietary advice and oral nutritional supplements in patients who have a reduced food intake. Routine enteral tube feeding is not indicated during radiation therapy, chemotherapy or stem cell transplantation although this method should be considered if the patient is losing weight or has a reduced food intake that cannot be managed by oral diet and supplements alone (Arends et al, 2006).

Methods of providing nutritional support
- oral nutrition support – advice about food choice, timing of meals, fortified food, additional snacks and/or sip feeds
- enteral tube feeding – the delivery of a nutritionally complete feed directly into the gut via a tube including nasogastric, nasojejunal, gastrostomy or jejunostomy feeding.
- parenteral nutrition – the delivery of nutrition intravenously.

What about the future?
There are still many unanswered questions in the area of nutrition support in cancer. There has been interest in particular nutrients which may be able to influence the metabolic changes in cancer cachexia and in immuno-modulating nutrients that may affect the patient's ability to fight infection. These interventions are fascinating but it is clear from the evidence to date that we urgently need to address the basic requirement of screening patients and addressing their basic nutritional needs. Studies on screening for malnutrition and subsequent assessment and management show that all too often we fail to identify patients who need help, support and advice. With an increasingly obese population in Europe we may run the risk of not identifying patients who are losing weight and require nutritional support.

We know that cancer patients are at high risk of having nutritional problems so it is an urgent priority that we address this area so that nutrition routinely becomes part of the patient's care.

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Malnutrition and Cachexia in Cancer Patients:

An Overview

Jan Foubert

The impact of cachexia on the cancer patient was reported as early as 1932 by Warren. In an autopsy series of 500 cancer patients, this investigator reported that cachexia was the immediate cause of death in 23% of patients (Warren, 1932). Warren defined cachexia as a disease characterised by progressive wasting and weakness, accompanied by increasing anaemia.

The majority of cancer patients have already experienced weight loss prior to diagnosis. The global incidence of malnutrition during the course of cancer ranges from 30% to 90% and is not only dependent on the type, location, grade, stage, and spread of the tumour, but also on anticancer treatments, age, gender, and individual susceptibility (Laviano & Meguid, 1996; Palomares et al, 1996; Nitenberg & Raynard, 2000). During the course of cancer, a weight loss of greater than 10% of pre-illness body weight may occur in up to 45% of cancer patients (Bozzetti, 2001; Bosaeus et al, 2001). Patients with pancreatic or gastric cancer appear to have the highest incidence of weight loss. Wigmore (1997) observed that at the time of diagnosis, all patients with unresectable pancreatic cancer had lost weight, and 35% of them had a BMI < 20.

Patients with head and neck or oesophageal cancer are frequently affected by malnutrition. Lees (1999) reported that 57% of head and neck cancer patients had lost weight on commencing treatment. Hammerlid and co-workers (1998) found that 51% of patients with head and neck cancer were malnourished. In a study by Magné et al (2001), 32% of patients with advanced head and neck cancer undergoing chemotherapy and radiotherapy were found to be malnourished (BMI < 20). Collins et al (1999) reported that 13% of patients with laryngeal carcinoma were malnourished at presentation (BMI < 20) and 26% of patients complained of weight loss (mean 5.35%). During radiation treatment, 49% had a documented weight loss (mean 6.4%), with 13.3% of patients losing > 10% of their body weight during treatment. The BMI at the end of treatment was significantly lower than at presentation (despite dietary counselling and/or oral supplementation). In a recent study by Daly et al (2000), 57% of patients with oesophageal cancer reported weight loss. Finally, mean body weight loss in dysphagic patients with cancer of the oesphagus prior to nutritional support was 18.8% (Bozzetti et al, 1998).

Patients with acute leukaemia have been reported to experience a median weight loss of 8% during treatment, with one third of patients losing more than 10% of body weight (Ollenschläger et al, 1992). Reported incidences of malnutrition in paediatric cancer patients are slightly worse and range from 5-30% at diagnosis to over 50% during therapy (Smith et al, 1990,1991; Kurugöl et al, 1997; Reilly et al, 1999; Pietsch & Ford, 2000; Yaris et al, 2002).

Patients with cancer cachexia experience a profound wasting of adipose tissue and lean body mass. Our understanding of the aetiology of cancer cachexia is still rather limited. It is believed that malnutrition and cachexia occur through a variety of mechanisms having to do with both the tumour itself and its treatment.
Although anorexia is common, a decreased food intake alone is insufficient to account for the changes in body composition seen in cancer patients due to the following factors:

- cachexia involves massive depletion of skeletal muscle that does not occur during anorexia
- increasing nutrient intake is unable to completely reverse the wasting syndrome
- cachexia can occur without anorexia
- food intake might be normal for the lower weight of the cancer patient
- appetite stimulants (such as megestrol acetate) do not significantly improve lean body mass (Tisdale, 1999, 2001).

Although energy expenditure is increased in some patients, cachexia can occur even with normal energy expenditure. Various factors are believed to act as mediators of anorexia and metabolic disturbances of cancer patients. These include: proinflammatory cytokines such as tumour necrosis factor-alpha (TNF-·), interleukin-1 (IL-1), interleukin-6 (IL-6), interferon-gamma (IFN-Á), as well as tumour-derived factors such as lipid mobilising factor (LMF) and protein mobilising factor (PMF) which can directly mobilise fatty acids and amino acids from adipose tissue and skeletal muscle respectively (Tisdale, 1999).

The intake of food is often reduced in cancer patients due to a number of factors associated with disease and treatment including anorexia, alterations in taste and smell, nausea, vomiting, pain, local effects of the tumour, psychological factors and side effects of treatments (Table 1)

Table 1: Factors which alter nutritional intake

Factors contributing to decreased nutrient intake	Effects of surgery	Effects of chemotherapy	Effects of radiotherapy
General			
Anorexia			
Fatigue		√	√
Changes in taste	√	√	√
and smell	√	√	√
Early satiety	√	√	
Upper GI tract			
Stomatitis		√	√
Oesophagitis		√	√
Xerostomia		√	√
Dysphagia	√		√
Odynophagia	√		√
Strictures	√		√
Fibrosis			√
Fistulas			√
Enteritis		√	√
Malabsorption	√	√	√
Lower GI tract			
Colitis			√
Diarrhoea		√	√
Strictures/ obstruction	√	√	√
Fistulas	√		√

Adapted from: Rivadeneira et al, 1998; Mutlu & Mobarhan, 2000; Fearon, 2001.

Weight loss is a major cause of morbidity and mortality in advanced cancer (Warren, 1932; DeWys et al, 1980; Ovesen et al, 1993). Progressive weight loss is a common feature of many types of cancer and is associated not only with a poor quality of life and poor response to chemotherapy, but also with a shorter survival time than is found in patients with comparable tumours without weight loss (Tisdale, 1999).
The reported consequences of disease-related malnutrition in adult cancer patients include the following:

- Lower quality of life (lower general health, poor social functioning, lower outlook/happiness) (Ovesen et al, 1993; Andreyev et al, 1998);
- Reduced response to chemotherapy (DeWys et al, 1980; Andreyev et al, 1998);
- Increased risk of chemotherapy-induced toxicity (Rickard et al, 1983; Andreyev et al, 1998);
- Higher risk of postoperative complications (Meguid et al, 1986; van Bockhorst et al, 1997; Jagoe et al, 2001);
- Reduced functional capacity and performance status (DeWys et al, 1980; Andreyev et al, 1998; Barber et al, 1999);
- Reduced muscle function (Zeiderman & McMahon, 1989);
- Longer hospital stay (Robinson et al, 1987; Shaw-Stiffel et al, 1993; Edington et al, 2000; Braunschweig et al, 2000);
- Higher prescription and consultation rates (Edington et al, 1999);
- Higher associated costs (Braunschweig et al, 2000);
- Higher mortality, especially in patients with gastrointestinal cancer (Meguid et al, 1986; Rey-Ferro et al, 1997; Persson et al, 1999) and in patients undergoing bone marrow transplantation (Deeg et al, 1995; Dickson et al, 1999);
- Shorter survival time (DeWys et al, 1980; Rickard et al, 1983; Andreyev et al, 1998; Gogos et al, 1998; van Bockhorst et al, 1999).

An important study on the consequences of malnutrition in cancer patients was conducted by Andreyev et al (1998). These investigators undertook a retrospective study to investigate whether weight loss at presentation influences outcome of patients who are to receive chemotherapy for gastrointestinal carcinoma. In 1555 patients treated over a 6-year period, weight loss at presentation was reported more commonly by men than women. Although patients with weight loss received lower chemotherapy doses initially, they developed more frequent and more severe dose limiting toxicity than patients without weight loss. Consequently, patients with weight loss on average received one month less treatment. Weight loss correlated with shorter survival, decreased response to treatment, decreased quality of life and impaired performance status.

Although the incidence of cachexia is steadily decreasing, malnutrition and weight loss continue to affect the physical and psychological well-being of many cancer patients. Clinical research in this area has identified the multifaceted factors which contribute to the occurrence of malnutrition and has identified the consequences of a poor nutritional state in cancer patients. More collaborative research is needed to identify evidence-based interventions and to evaluate clinical outcomes to truly make a difference in the nutritional well-being of cancer patients.

The information presented in this article is based on:

Anorexia, Cachexia and Malnutrition, Chapter 29, Foubert J. and Molassiotis A. In

Nursing patients with cancer, principles and practice, 2006, edited by Kearney N. and Richardson A.

Nutritional Status Screening by Nurses

Jean K. Brown, PhD, RN, FAAN, Professor, University at Buffalo, The State University of New York

Nurses are on the front lines of cancer care and are often the first health care providers to assess cancer patient problems including nutritional status. Thus, nurses should screen the nutritional status of all cancer patients to identify those who have nutritional problems or are at risk to develop them. The purpose of this article is to discuss the impact of malnutrition on cancer patients, describe nutritional screening indicators, and to briefly describe one study that examined how malnutrition is assessed.

Impact of Cancer Malnutrition

Researchers have reported that cancer-related malnutrition is associated with diminished quality of life, increased morbidity, decreased survival, and increased cost of health care. Further, research has found that as food intake decreased and weight loss increased in cancer patients, the functional, psychological, and social dimensions of quality of life decreased. Cancer patients also had reduced energy resulting in difficulty accomplishing household chores, interference with work activities, less vigorous activity, a reduced ability to climb several flights of stairs, and impairment in walking distances. Social functioning and outlook/happiness were significantly lower in cancer patients with weight loss than in those without weight loss, but there is conflicting data regarding this finding. Several studies have associated malnutrition with a 70% increased risk of morbidity, a 40% increased mortality, a more than two-fold increase in hospital length of stay, and a more than two-fold increase in health care costs. Being malnourished was the most significant predictor of hospital length of stay and subsequent additional hospital charges. Thus, it is clear that weight loss and malnutrition are related to poorer quality of life, increased complications, shorter survival, and increased cost of health care.

Weight gain is also a serious nutritional problem especially for women with breast cancer receiving adjuvant chemotherapy and tamoxifen. Research evidence strongly links obesity as a significant risk factor for breast cancer recurrence and decreased length of survival. Obesity is associated with a 50% increased risk of recurrence and a 40% to 70% increased risk of mortality. Thus, the extent of risk associated with weight gain and obesity is substantial for some women with breast cancer, yet weight gain is common after treatment for breast cancer.

Nutritional Screening Indicators

The goal of nutritional screening is to identify patients at risk for nutritional problems. Based on this assessment, nutritional problems can be prevented or treated early, and treatment plans can be changed to minimize the impact on nutritional status. Nutritional screening indicators include weight change, food intake, symptoms affecting nutritional status, functional status, physical examination findings, and projected nutritional problems.

- Weight change. Weight and height provide an excellent estimate of nutritional status and body composition, and percent weight change over time is an excellent overall indicator of changes in nutritional status. Weight and height are used to calculate body mass index (also known as Quetelet's Index), the most widely used method of estimating body size and composition. Body mass index (BMI) can be calculated as follows: BMI = weight in kg divided by height in meters squared. Nomograms, computer software, and charts are available for rapid calculation of BMI in clinical settings. BMI is interpreted as healthy weight (18.5 to 24.9), too lean (< 18.5), overweight (25 to 29.9), or obese (? 30). Percent weight change is calculated by dividing past weight minus current weight by past weight, and then multiplying by 100. A 10% weight loss in 6 months is considered severe. For example, at today's visit the patient weighs 60 kg. Six months ago her weight was 70 kg. The percent weight change calculation is as follows: 70 kg - 60 kg / 70 kg x 100 = 14% weight change.
- Food intake. Assessment of food intake goes hand-in-hand with assessment of weight change. If the patient's weight is stable, it is

helpful to ask if their food intake has changed to anticipate potential problems. If a patient has lost or gained weight, a more detailed food intake assessment is needed. Twenty-four-hour dietary recall, multiple-day (usually 3 days) food records, direct observation, and food frequency questionnaires are methods used to measure food intake. In many clinical settings, the 24-hour dietary recall works well. Using this approach, the nurse asks what the patient has eaten for meals and snacks on the previous day, and if this intake is typical. If not typical, the differences between what is usually eaten and the day recalled are examined. When food intake is less than usual and weight loss is also present, the patient may be at nutritional risk. Food intake less than 1.5 times basal energy needs and severe weight loss may be an indicator of cachexia. Weight gain above a healthy weight is also of concern for cancer patients because it may increase their risk of recurrence or other illnesses.

- Symptoms affecting nutritional status. Nutritional status is affected by cancer-related symptoms and treatment side effects. Anorexia (loss of appetite) is most commonly associated with nutritional problems, but difficulty swallowing, shortness of breath, pain, dry mouth, mouth sores, nausea, vomiting, diarrhoea, constipation, fatigue, depression, and infection can affect food intake, energy expenditure, and overall nutritional status. Many of these symptoms may contribute to diminished caloric intake; whereas others such as infection and mouth sores may increase energy demands. The severity of symptoms and the total number of symptoms experienced are directly related to nutritional risk.
- Functional status. Weight loss appears to contribute to decreased functional status in cancer patients, and decreased functional status, such as that often found in the elderly, may contribute to poor nutritional status. There are several performance status scales that can be used such as the World Health Organization Performance Scale, the Karnofsky Performance Scale, and the Eastern Cooperative Oncology Group Performance Scale.
- Physical examination. Oral mucosal problems and poor dentition or poorly fitting dentures are indicators of potential or ongoing problems with food intake. In addition, body fat, muscle loss, and fluid status should be assessed. Loss of fullness or looseness of the skin in the shoulders, triceps, chest, and hands is an indicator of subcutaneous fat loss. Deltoid and quadriceps muscle wasting are indicators of muscle wasting. Sunken temples with prominent outline of the skull are indications of severe muscle wasting. Pitting oedema or ascites is an indication of impaired fluid status. Results are assessed as absent/normal, mild, moderate, or severe.
- Anticipated nutritional problems. In assessing for anticipated problems, nurses should consider if the patient is at risk for nutritional problems in the future. Both clinical and personal characteristics of the patient should be examined. Clinically, nurses should ask, what are the nutritional implications of the treatment planned for the patient and anticipated symptoms of their disease? Are problems expected to be temporary or permanent? For example, head and neck cancer patients with surgical removal of their tumour may have life-long problems with chewing and swallowing whereas the lung cancer patient receiving radiotherapy to the chest will have temporary difficulty in swallowing because of oesophagitis. In addition, the destruction of cells caused by cancer treatment, the elimination of related waste products, and tissue healing increase metabolic energy needs. Nicotine use, gender, and age are personal characteristics associated with cancer-related nutritional problems. Nicotine use increases metabolic rate and calories needed to maintain weight. Most men have higher caloric needs than women because they have more lean muscle mass. Lastly, older people often have poor nutritional habits that may affect their food intake during treatment. Thus, clinical risk assessment should include the nutritional impact of treatment cellular effects, systemic side effects, anticipated symptoms of the disease, nicotine use, gender, and age.

Findings from the nutritional screening assessment should be analyzed to determine if the patient is at nutritional risk and thus requires a comprehensive nutritional assessment. Patients with a BMI < 18.5 or who have had a ? 10% weight loss over 6 months or less, decreased food intake, a number of cancer-related symptoms and treatment side effects that could affect nutritional status, poor functional status, physical examination indicators of concern, or anticipated nutritional problems would benefit from a referral to a dietician for a comprehensive nutritional assessment.

Because thorough nutritional screening includes several assessment indicators, it is useful to have an efficient, systematic approach. Nutritional assessment forms are available in the literature. To facilitate nutritional screening, patients can fill out portions of the assessment forms during their waiting time and then the health care providers can add their observations and discuss the overall assessment with patients.

Quality of Malnutrition Assessment

We conducted a retrospective study comparing the clinical differences among malnutrition diagnoses by physicians and dieticians as well as three nutritional assessment indices. Data were collected from the medical records of 288 admissions of lung (39%), gastrointestinal (45%), and head and neck (16%) cancer patients at a comprehensive cancer care centre in Buffalo, NY. Physician diagnoses were determined from ICD-9 codes 260-263.9, and dieticians rated patients as adequate, at risk, or compromised. The nutritional assessment indices were body mass index (BMI); Swails et al. method using weight change, percent ideal body weight, and albumin; and the method described in the Manual of Clinical Dietetics using Swails' indicators plus transferrin. The sample was 56% male with a mean age of 63 years (SD=13.5). The prevalence of malnutrition ranged from 6% according to physician diagnoses to 51% according to the Manual of Clinical Dietetics. The BMI index detected 11% malnourished cases; Swails' indicators identified 21% as malnourished, and dieticians diagnosed 27% as malnourished. There were enormous differences in the outcomes of the malnutrition indicators studied and no gold standard approach has been identified. Consensus is needed on indicators used for nutritional assessment, and then they must be consistently applied in clinical practice.

Conclusions

Nutritional screening is critical to identify cancer patients with nutritional problems as well as those at risk for nutritional problems in the future. Assessment using only anthropometric (height, weight, body composition) and physiological indicators does not lead to consistent diagnoses of malnutrition. Thus, nutritional screening must include additional factors including food intake, symptoms affecting nutritional status, functional status, physical examination findings, and anticipated nutritional problems.

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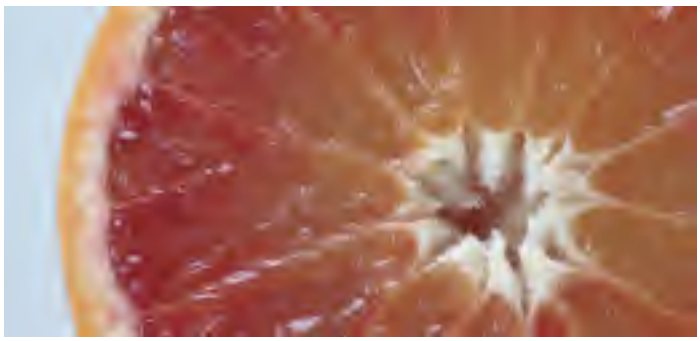

Advisory Council meets to Discuss future Direction of EONS

Carol Krcmar

As in previous years, the Advisory Council met with the EONS Executive Board in September to discuss and plan initiatives that will dominate the EONS agenda for the coming year. Through these discussions the EONS Board is able to concentrate its resources on the implementation of activities that best meet the needs of the broader membership, as identified by the Advisory Board, while advancing the CARE (**C**ommunication, political **A**genda, **R**esearch, **E**ducation) strategy plan.

Twenty nurses representing 19 European countries attended the two-day meeting. Many council members were attending the meeting for the first time and although they may have felt a bit lost at the start of the meeting, more experienced members were ready and eager to provide information to help the novice members obtain a better understanding of the workings of EONS. The tone and pace of Advisory Council meetings is always relaxed with effort made to make all participants feel comfortable and to encourage those who are less fluent in English to become actively involved in discussions.

The first major point of business was the presentation of the EONS financial plan. According to Treasurer Jan Foubert, the accounts balance is in a healthy plus due in great part to profits incurred from the Spring Convention and to industry support of projects. This support allows EONS to undertake educational and research projects which would otherwise be difficult to implement using income obtained from membership fees and conference fees alone. There is concern, however, that financial support from the industry may become more restricted in the future.

A report on research activities highlighted the methods and results to date of the Research Priorities in Cancer Nursing study. The first round of information gathering was conducted through e-mail postings and questionnaires issued to participants at the Spring Convention. Using a Delphi method to identify topics of interest, the participants at the Advisory Council meeting narrowed the first generated list of topics from 650 to 65 in a second round of questioning and then down to nine topics in a third round. The Research Committee will be evaluating the best methods to get started on conducting research on the identified priority topics. A more detailed report of this study will be published in EJON.

The Research Committee has established a budget and allocated funds for research grants, mentoring grants, establishment of a research network, the publication and dissemination of research results, and the administration of research projects. EONS will issue a call for applications for funding of research in January 2007. A research directory will be established to aid networking activities of nurse researchers and it is planned to launch this directory at the ECCO congress. The list of EONS-sponsored grants has steadily increased over the past several years. In addition to existing grants, EONS will solicit applications for a TITAN Dissemination Project Award and Translation Grants for the TARGET and TITAN programs. Further information on grants including submission deadlines will be published on the EONS website.

The provision of high quality educational programs continues to be a strength of EONS. Successes to date include: the translation of the EONS post-basic cancer curriculum into French, Italian, Spanish, Dutch, and German; development of the cancer in older people curriculum; the provision of translation grants for curricula; and accreditation of educational offerings. The Education Committee has identified the following future short term projects:

- Facilitation of Cancer Education and Teaching (FaCET) – an update on teaching to enhance dissemination of curricula and provide an opportunity for educationalists to share knowledge. To be implemented October 2006.
- Accreditation update – revision of application forms and cost structure. To be started January 2007.
- Breathing and respiratory education for health care professionals e-learning project. The training needs analysis (BREATHE) will begin in June 2007.

Longer term projects are the following:

- BREATHE project – develop a curriculum and training materials. Training the trainers e-learning to be developed with national societies.
- Participation in EU cancer nurse education – an initiative which will facilitate EU changes in education and the Erasmus project.
- Establish a steering group to review and update post-basic cancer nursing curricula.

EONS is steadily advancing its goal to become the voice of cancer nursing in Europe. President Yvonne Wengström has been actively engaged in establishing the European Specialist Nurse Organization (ESNO). This organization, consisting of associations from both European specialist and interest nursing groups, has met to define and outline its goals, objectives, and mission. Activities of the organization will provide more recognition of specialist nursing at the European level. EONS is an important member of ESNO.

Following the presentation of updates on specific areas of the CARE strategy, small working groups met to exchange ideas and provide input for future direction of EONS activities within the CARE framework. Briefly, the ideas generated from the workgroup sessions were:

Communication: Working group members proposed making EONS and its activities more visible through, for example, the development of an 'EONS fact sheet' which could be distributed at local, regional, and national conferences or inserted into the newsletters of national organizations. A further proposal was for EONS to provide support for national events, especially those that address the goals contained within the political agenda, with appropriate recognition of the source of support.

political Agenda: Although a working group was not formed to look at this specific aspect of the strategy, many of the suggestions that came from the other groups had an impact on increasing the visibility of the role and importance of cancer nursing and EONS.

Research: The research-related activities of EONS and its members should be given greater exposure through, for example, publication of research results in high impact journals. Researchers and the results of research studies need to be networked to facilitate more collaboration in conducting studies and easier access to results which can then be implemented into practice. The group identified criteria to be used in the selection of recipients of EONS-sponsored grants to conduct research. These include: member of a national oncology nursing society or an EONS individual member; recipient of a Master's degree or equivalent; proven experience as the recipient of one large or several smaller research grants; one PhD must be a member of the investigating team; the topic to be studied must have relevance to oncology nursing. In addition, the group decided that provided financial support will be closely monitored and the recipient will be held accountable for using monies appropriately.

Education: Ideas were directed toward facilitating and enhancing existing educational initiatives through the translation of materials. Further, the development of an electronic cancer nursing textbook was proposed as well as the initiation of educational study days sponsored by national organizations and supported through EONS grants. More networking and mentoring activities were proposed especially those which support the collaboration between clinicians and academic nurses.

The outcome of the two-day meeting was very positive. As EONS reaches out to address the needs of European nurses working in cancer, the bonds that connect these nurses becomes closer through collaboration. The next meeting of the Advisory Council will be May 5th and 6th, 2007.

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Nutritional Issues in the Critically Ill Cancer Patient

Alys de Jabrun, Guy's and St Thomas' Hospital NHS Foundation Trust

Introduction

Providing nourishment to the critically ill patient was a much debated issue in the past. Evidence supporting the clinical need to provide nutritional support in the acutely unwell, however, has significantly challenged this statement. Patients in the Intensive Care Unit (ICU) are at significant risk of being malnourished or becoming malnourished, a rate reportedly as high as 40% and associated with an increase in morbidity and mortality (1). The association between malnourishment and impaired immune function, impaired ventilatory muscles resulting in prolonged mechanical ventilatory dependence, and increased infectious complications is now well established (2).

This paper will focus on the benefits of nutrition support, in particular enteral nutrition, in the critical care environment and will discuss the current evidence based guidelines available.

Critical Care and the Metabolic response to Stress

The human body reacts both locally and generally to major or minor insults. The local response is important for healing and protecting against infection and involves the release of inflammatory mediators (e.g. prostaglandins, interleukins and histamine) and vascular endothelial cell products. The generalised or "stress response" evolves as widespread endocrine and biochemical reactions which are determined by the severity, intensity, and duration of the stressor.

The body has a significant hypermetabolic response to an insult or to stress that includes:

- Changes in energy requirements and production;
- Preferential catabolism of body glucose, fat and protein stores;
- Anorexia which subsequently limits nutritional intake;
- Reduced intestinal absorption resulting from poor intestinal perfusion;
- Sodium and fluid retention due to hormonal influence and oxidative stress;
- Pyrexia in the presence of infection;
- Immune cell and acute phase protein production (3).

If the patient survives the initial injury or shock to normal bodily function, they may subsequently develop a metabolic response, systemic inflammatory response (SIRS), progressive multiple organ dysfunction syndrome (MODS), or progression to a phase of recovery from the insult may occur (3).

In contrast to the metabolic response to starvation which results in gradual weight loss, in critical illness proteins are broken down and fat stores are mobilised resulting in accelerated weight loss. The provision of early nutritional support in the critically ill is vital to avoid further complications of the insult and also to provide sufficient energy to spare protein losses.

Nutrition Support in Critical Care

When should nutritional support be provided?

Nutritional support to the critically ill patient provides several benefits: improved wound healing, decreased catabolic response to injury, improved gastrointestinal structure and function, and improved clinical outcome. Undernutrition is likely to occur in the ICU setting due to the catabolic nature of the illness and subsequent increased substrate usage.

The preferred route of nutrition support is enteral nutrition (EN) and should be provided to all critically ill patients who are not expected to be able to tolerate a full oral diet within three days (4). However, the debate regarding how early to commence EN is still raging. Both European and Canadian committees have recently produced guidance in this area and agree that an adequate amount of nutrition should be provided within 24-48 hours of ICU admission as long as the patient is haemodynamically stable with a functioning gastrointestinal tract (4, 5). In order to provide nutrition in a timely fashion, evidence based nutrition guidelines and protocols have been researched and found to improve nutritional intake and improve ICU survival (6).

Which route should be used?

Once the decision to provide nutrition has been made, the next most important question is how to provide it. Do we feed directly into the stomach via a nasogastric feeding tube or should we be attempting to feed post-pylorically into the jejunum, beyond the ligament of Trietz using a nasojejunal feeding tube. Both the European (ESPEN) guidelines and the Canadian guidelines discuss the potential benefit of feeding into the small bowel because of the reduced risk of aspiration pneumonia. However, due to potential logistical difficulties and the practicalities associated with obtaining post-pyloric access, this route of nutritional delivery has not been widely recommended for standard practice and nasogastric feeding is the norm. If patients become intolerant to gastric feeding due to medications (e.g. inotropes, continuous infusions of sedatives, or high gastric drainage), both guidelines recommend that jejunal feeding should be considered early (4, 5).

How much nutritional support should be provided?

There are differing opinions as to whether aggressive nutritional support should be initiated to help reverse the effects of catabolism. Several studies have shown that aggressive feeding does not prevent long term loss of lean muscle mass (7, 8). One research group found that patients with multi-organ failure lost 12.5% of their body protein despite 10 days of nutrition (9). Hypocaloric feeding in the critically ill patient seems to confer some benefits; however this approach should be used with caution as the definition of what is hypocaloric varies. Some of the benefits of hypocaloric feeding may include: attenuation of losses in the catabolic phase, prevention of hyperglycaemia and excess carbon dioxide production. The ESPEN 2006 guidelines do not recommend a specific figure, but mention that nutritional support should be tailored to the progression of the disease and gut tolerance. Therefore, in the acute phase, provision of more than 20-25kcal/kg could potentially be harmful to the patient whereas in the recovery or flow phase, 25-30kcal/kg should be provided (4).

Optimisation of delivery of EN and minimisation of risks

Now that we have decided that the patient can be fed by which route and how much, we need to consider the practicalities of administration of the nutritional support. Does altering the angle at which the patient is fed have an effect on outcome? Do prokinetic and motility agents result in

better outcomes? Should feeding protocols be used?
Study results that showed a significant reduction in the incidence of ventilator-acquired pneumonia (5% vs. 23%, $p<0.5$) with the head of the bed at a 45 degree angle instead of supine or semi recumbent positions was sufficient evidence to formulate general practice guidelines throughout the UK (10).

Both the ESPEN and the Canadian guidelines make specific comments regarding the use of motility agents when providing nutritional support via the enteral route in the critically ill. Both guidelines are in agreement that patients who have high gastric residual volumes when feeding is infused should be considered for the administration of metoclopramide as a first line treatment. There is some debate regarding how high is high; some say 250 ml, others say intolerance is above 500 ml. There is no conclusive evidence at present to make any definitive comment.

Many intensive care units in the UK have implemented the use of feeding protocols to allow for early administration of nutritional support when a dietitian is not available to give advice. The ACCEPT trial in 2004 (6) found that the long term outcome benefits to the patient when protocols were used for initiation of enteral feeding within 24 hours of ICU admission were significant. Additionally, they found that the mean length of hospital stay and mortality rates of patients randomised to nutritional support using a protocol based system were significantly reduced (6).

The scope of nutritional support in the critically ill does not solely rely on enteral nutrition; intravenous nutritional support is also possible if the gastrointestinal tract is not functioning properly. There are many further considerations for patients requiring nutritional support via this route; however the key is to consider nutrition at the onset of ICU admission.

Conclusion

The intent of this article was to provide insight into some of the complexities in decision making with respect to nutritional support in the critical care setting. The key factors to remember are to ensure that nutrition is considered early and to provide adequate amounts in an appropriate manner to suit individual needs. The benefits to providing nutritional support to the critically ill far outweigh any risks.

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Large European Survey reveals

Critical Gaps in Breast Cancer Patient Education and Communication

Yvonne Wengström, EONS President and Head of Nursing CRU / Dept. of Neurobiology, Care Science and Society, Section for Nursing, Karolinska University Hospital, Stockholm, Sweden

Adjuvant endocrine therapy is used in the treatment of hormone responsive breast cancer to reduce the risk of disease recurrence. Women generally remain on adjuvant endocrine therapy for five years although emerging evidence suggests that extending the duration of treatment may be advantageous. The GAEA (Gathering Information on Adjuvant Endocrine therApy) Initiative aims to delineate women's knowledge and experience of adjuvant endocrine therapy and to develop programmes targeted at meeting their needs.

This initiative represents a collaboration between the European School of Oncology (ESO), the European Oncology Nursing Society (EONS) and Novartis Oncology. Europa Donna (ED) - the European Breast Cancer Coalition –acts as the patient advocacy resource for the initiative. Recently, a steering committee was established consisting of Yvonne Wengström (EONS), Alberto Costa (ESO) and Susanna Leto (Novartis Oncology, Region Europe) to direct activities related to this project.

The GAEA Survey

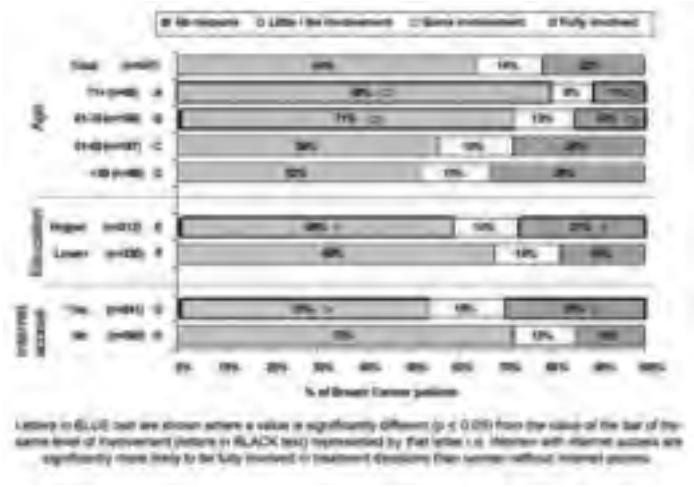
The first step of the GAEA initiative was the administration of a survey that aimed to gather information on breast cancer patients' knowledge about adjuvant endocrine therapy and to identify their informational and support needs while taking this treatment. The survey was conducted in 9 countries (Austria, France, Germany, Hungary, Italy, Spain, Sweden, Switzerland, and the UK) that represent different regions of Europe and different sized countries.

Post-menopausal women with early breast cancer that were currently taking adjuvant endocrine therapy were invited to take part in the survey. Women were recruited via advertisements in the media, posters displayed in pharmacies and clinics, as well as through the GAEA collaborating organisations, other European patient advocacy groups, and healthcare professionals. A total of 547 women took part in the survey most of whom were between 51-70 years of age with 13% over the age of 71 years. Less than half of the women had internet access and approximately 40% had completed higher level education.

GAEA Survey Findings

Nearly half of the women surveyed were not involved at all in the decision to start adjuvant endocrine therapy. Almost one in four women were made aware of different treatment options but were not involved in the decision to start treatment. Approximately one quarter of the study participants were fully or highly involved in the decision to start adjuvant endocrine therapy. The study found that younger women, women with a higher level of education and women with internet access were more likely to have been more actively involved in decision making (Figure 1). Those who were not involved in decision making were much less likely to be satisfied with their level of involvement.

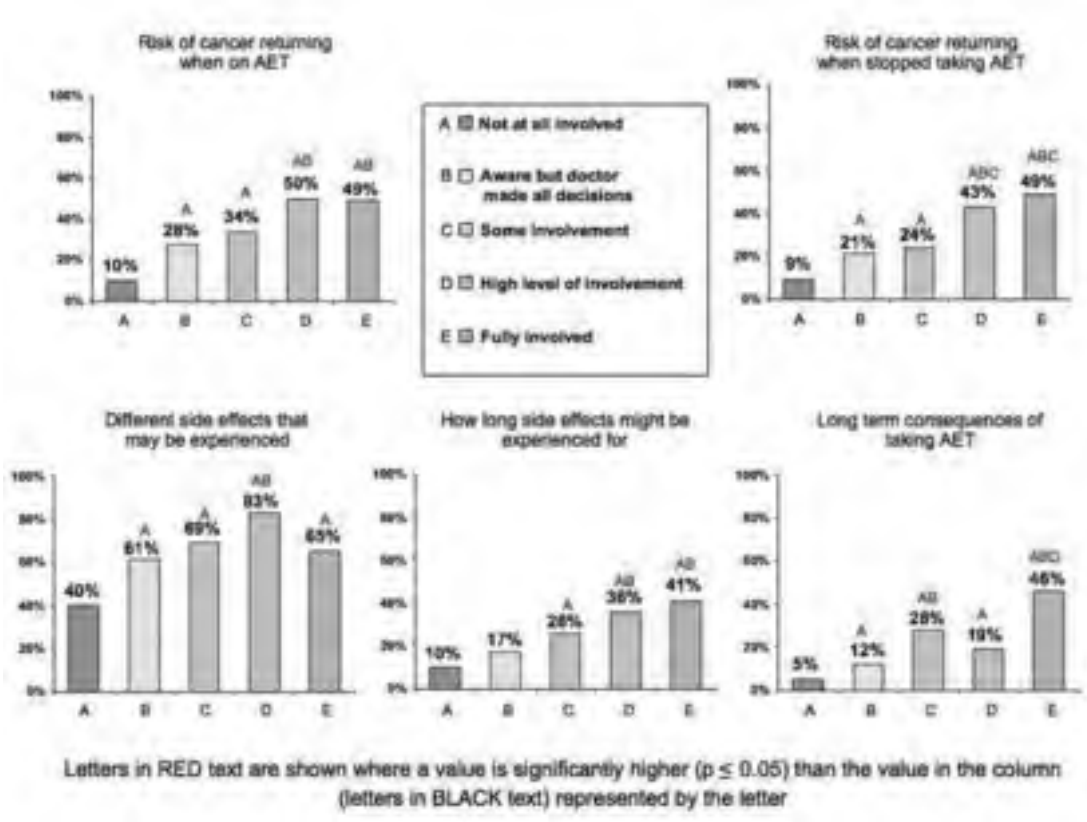
Figure 1: Level of Involvement with treatment decisions by patient demographics



Despite the fact that the women surveyed were generally satisfied with the information they received from healthcare professionals, less than half received information on how the treatment works and even fewer were informed of the possible severity of side effects, the duration of side-effects and the risk of their cancer recurring at the end of adjuvant endocrine therapy. Younger women and women with internet access were found to receive more information at the start of treatment than older or less educated patients.

Moreover, women who were more actively involved in treatment decision making were significantly more likely to be told about treatment-related side-effects, long term consequences of treatment and risk of their cancer returning compared to those who had little or no involvement (Figure 2).

Figure 2: Awareness of side effects and risk of recurrence by involvement in treatment decision



Doctors were the most important and useful source of information and support for the women who took part in the survey and 65% of women said that nurses were a source of information about adjuvant endocrine therapy. Overall they were satisfied with the information they received from nurses with 40% saying that the information they received from nurses was extremely useful and 46% somewhat useful. Younger women were more likely to find that nurses were an extremely useful source of information.

Just over a third of those surveyed stated that they were not made aware of the availability of support services at the time of diagnosis. Even though breast cancer support groups were shown to be a valuable source of information and support for women in the study, less than half were made aware about the existence of such groups when they were diagnosed.

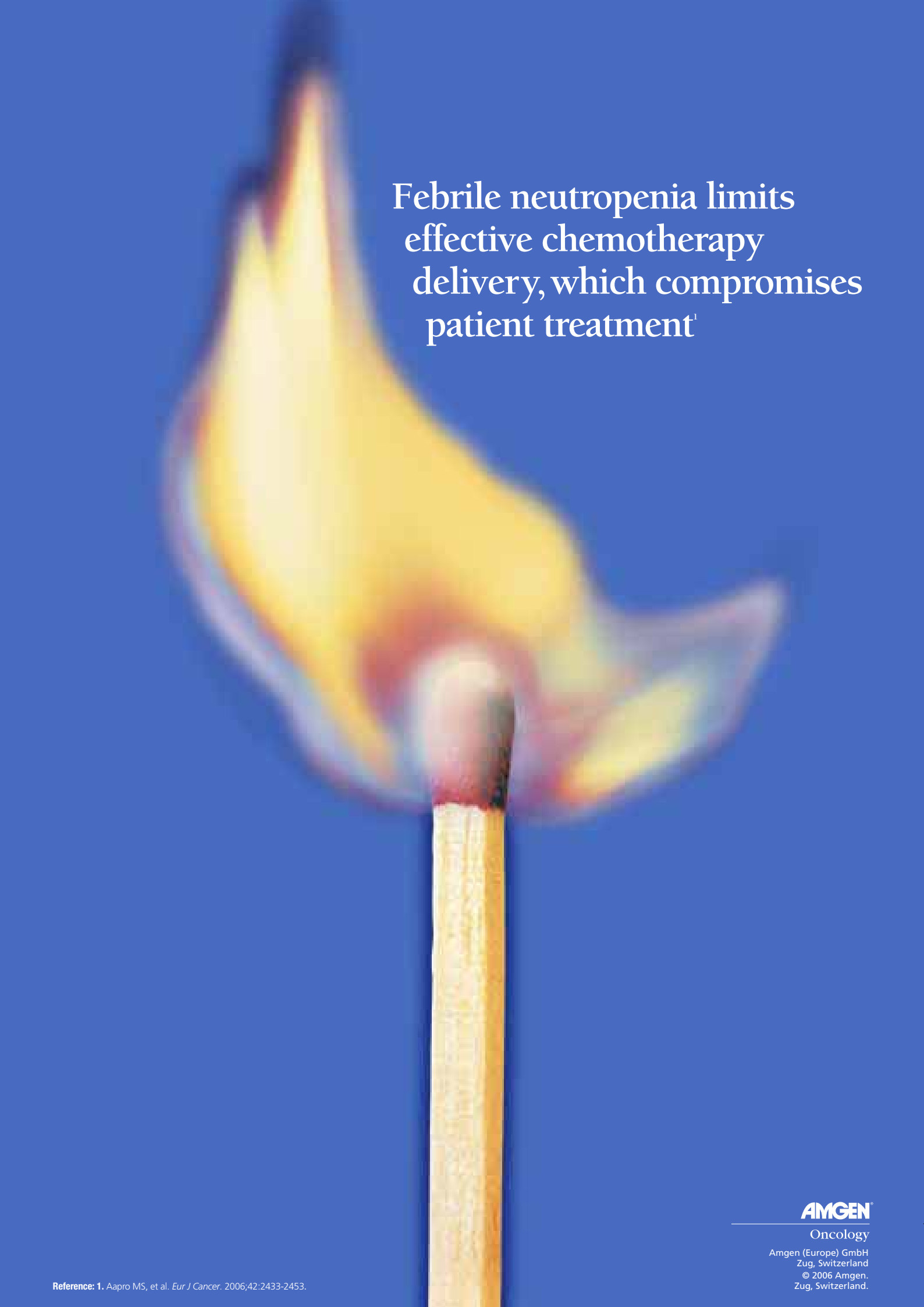
Implications of the study: Meeting the needs of women with breast cancer

All patients, regardless of age or educational level, should be helped to understand how adjuvant endocrine therapy works, which treatments are available, the possible side effects of treatment, and their risk of recurrence so that they can make informed decisions about their treatment. Better communication between patients and health professionals will facilitate this process, as will the development of high quality patient educational materials on adjuvant endocrine therapy. Special efforts are required to address the significant gaps in meeting the needs of older women, less well educated women, and those women who do not have internet access.

These findings provide initial insight into the needs of women taking adjuvant endocrine therapy and indicate a need for further research to develop a greater understanding of and identify useful strategies for meeting these needs.

The survey findings were presented in a poster at the ESMO conference held in Istanbul, Turkey on September 30th. The GAEA initiative attracted a significant amount of media attention at the conference which enabled us to highlight the unacceptable gaps and inequities that currently exist in meeting the needs of women with breast cancer. We are keen to continue raising awareness about the survey findings. To this end, a manuscript on the survey has been submitted to a widely read European peer-reviewed journal and other publications are in the pipeline. Media events are also planned in some of the countries where the survey was carried out.

A comprehensive slide presentation on the GAEA survey, the poster that was presented at ESMO, a web-cast about the GAEA survey, and a range of background materials can be found at www.gaeainitiative.eu. The GAEA initiative is not finished – the collaborating organisations are committed to developing ongoing programmes that can help bridge the gaps and improve the care that all European patients with breast cancer receive. Watch this space!



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Therapy should be initiated and supervised by physicians experienced in oncology and/or haematology. **Contra-indications:** Hypersensitivity to pegfilgrastim, filgrastim, *E. coli* derived proteins, or to any excipients. **Special Warnings and Precautions:** Limited data suggest a similar effect on time to recovery of severe neutropenia for NEULASTA® to filgrastim in patients with *de novo* acute myeloid leukaemia (AML). Long term effects have not been established, and NEULASTA® should be used with caution in this patient population. NEULASTA® should not be used in patients with myelodysplastic syndrome, chronic myelogenous leukaemia or secondary AML. Safety and efficacy not evaluated in *de novo* AML patients aged <55 years with cytogenetics t(15;17). Safety and efficacy not investigated in patients receiving high dose chemotherapy. Patients with a recent history of pulmonary infiltrates may be at higher risk of pulmonary adverse events such as interstitial pneumonia. The onset of pulmonary signs such as cough, fever, and dyspnoea in association with radiological signs of pulmonary infiltrates, and deterioration in pulmonary function along with increased neutrophil count may be preliminary signs of Adult Respiratory Distress Syndrome (ARDS). In such circumstances, NEULASTA® should be discontinued at the discretion of the physician and the appropriate treatment given. Common but generally asymptomatic cases of splenomegaly and very rare cases of splenic rupture following administration of granulocyte-colony stimulating factors. Spleen size should be closely monitored (clinical examination, ultrasound). Treatment with NEULASTA® alone does not preclude thrombocytopenia and anaemia. Regular monitoring of platelet count and haematocrit is recommended. NEULASTA® should not be used to increase the dose of cytotoxic chemotherapy beyond established dosage regimens. Exercise caution when administering NEULASTA® in patients with sickle cell disease, and appropriate monitoring, due to the possible association of NEULASTA® with splenic enlargement and vaso-occlusive crisis. White blood cell counts of 100 x 10^9/l or greater have been observed in less than 1% of patients receiving NEULASTA®, but no directly attributable adverse events have been reported. The safety and efficacy of NEULASTA® for the mobilisation of blood progenitor cells in patients or healthy donors has not been adequately evaluated. **Interactions:** NEULASTA® should be administered approximately 24 hours after chemotherapy. **Pregnancy and lactation:** No adequate experience in human pregnancy and lactation. NEULASTA® should not be used during pregnancy unless clearly necessary. Do not administer to women who are breast-feeding. **Undesirable Effects:** In clinical studies the most frequently reported related undesirable effect was mild to moderate bone pain. Allergic reactions, including anaphylaxis, have been reported both with NEULASTA® and its parent compound, filgrastim. Common, reversible, mild to moderate elevations in uric acid and alkaline phosphatase with no associated clinical effects. Very common, reversible, mild to moderate elevations in lactate dehydrogenase with no associated clinical effects. Nausea observed in healthy volunteers and patients receiving chemotherapy. Common but generally asymptomatic cases of splenomegaly and very rare cases of splenic rutpure that in some cases were fatal. Rare pulmonary effects including interstitial pneumonia, pulmonary oedema, infiltrates and fibrosis, some of which resulted in respiratory failure or ARDS, which may be fatal. Undesirable effects seen in clinical studies with incidence of > 10% were skeletal pain and > 1%, < 10% were injection site pain, chest pain (non-cardiac), headache, arthralgia, myalgia, back, limb, musculo-skeletal and neck pain. Please consult the Summary of Product Characteristics for a full description of side effects. **Pharmaceutical Precautions:** NEULASTA® is incompatible with sodium chloride solutions. Store at 2°C to 8°C (in a refrigerator). NEULASTA® may be exposed to room temperature (not above 30°C) for a maximum single period of up to 72 hours. NEULASTA® left at room temperature for more than 72 hours should be discarded. Do not freeze. Accidental exposure to freezing temperatures for a single period of less than 24 hours does not adversely affect the stability of NEULASTA®. Keep container in outer carton to protect from light. **Legal Category:** POM. **Presentation and Marketing Authorisation Number:** NEULASTA® 6 mg, EU/1/02/227/001-002. **Marketing Authorisation Holder:** Amgen Europe B.V., Minervum 7061, 4817 ZK Breda, The Netherlands. Further information is available from Amgen Limited, 240 Cambridge Science Park, Milton Road, Cambridge, CB4 0WD. **Date of PI preparation:** September 2006.

For the UK only, information about adverse event reporting can be found at www.yellowcard.gov.uk. Adverse events should also be reported to Amgen Limited on 01223 436441

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References: 1. Vogel CL, et al. *J Clin Oncol.* 2005;23:1178-1184. **2.** Ozer H, et al. *J Clin Oncol.* 2006;24(18S part I of II):485s. Abstract 8569. **3.** Green MD, et al. *Ann Oncol.* 2003;14:29-35.

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News from the Board

Winter 2006

Extraordinary Meeting of the Society Agrees Amendments to EONS' Constitution and Bye-laws

The EONS Advisory Council meeting took place in the Crowne Plaza Hotel in Brussels on the 16th and 17th of September 2006. This was preceded by an extraordinary meeting of the society at which a number of changes to the society's constitution and bye-laws were agreed. The amendments, made necessary by changes to UK charity law since these were last revised in 1999 take account of EONS' new operating structures and give the Executive Board authority to formally appoint an Executive Director and agree the terms and remuneration for both this and other paid activities undertaken on behalf of the society whose activities have grown considerably in recent years. The new bye-laws and constitution were formally ratified by the extraordinary meeting and are now available to members on the society's website at www.cancerworld.org/EONS

Communication Agenda

At the Advisory Council meeting which followed, EONS Executive Board member Stephen O'Connor outlined developments on the society's communication agenda agreed by the Executive Board at their meeting on the 15th September. Two key aims of the strategy are to increase the amount of information available to EONS members in their own language, and to improve the interactivity of the society's website, both issues having been raised as priorities at previous Advisory Council and General Meetings. An Italian language edition of EONS News, produced in collaboration with the Italian Oncology Nurses Association (AIIO) was distributed for the first time at the meeting, and it was hoped that future editions of the newsletter might be available in other languages with the help of national cancer nursing societies, particularly where this will benefit members from more than one national oncology nursing society, country or region of Europe. A budget has been agreed by the Executive Board to assist national oncology nursing societies with the cost of distributing non-English copies of EONS News more widely if desired, and enquiries about the scheme should be addressed to the EONS Secretariat at Avenue E. Mounier 83/4, B-1200 Brussels, Belgium or sent to the new EONS e-mail address: eons.secretariat@skynet.be

Research Agenda

Professor Davina Porock, Chair of EONS' research committee outlined arrangements for the distribution of research grants totalling ?100,000 which will be used to pump-prime projects arising from the research priorities survey concluded at the Advisory Council meeting. The three areas ranked highest in the final stage of the Delphi study were the development of evidence-based guidelines and care pathways, symptom management and psycho-oncology. Larger research grants totalling up to ?40,000 will be available to experienced researchers or institutions submitting proposals on these themes whilst several smaller grants of up to ?10,000 will be awarded to applicants embarking upon their research careers, part of which may be used to meet research mentorship and dissemination costs in addition to other research expenses. Further information and application forms for the grants will be available early in the New Year from the EONS website at the above address.

The results of the Delphi survey reveal core topics of importance to oncology nurses as well as developments in cancer nursing practice and support the need for continued research into the areas of symptom management, the development of clinical guidelines and the psychological needs of cancer patients. It is interesting to note that the development of care pathways and clinical guidelines have not ranked highly in other surveys of cancer nurses' research priorities, and the finding indicates the growing importance of these strategies in disseminating evidence-based practice in an efficient and cost-effective manner. EONS will endeavour to ensure that current, evidence-based guidelines for clinical practice will be disseminated more widely and would welcome applications from national oncology nursing societies and other organisations seeking to further the development of these tools under the research grants scheme.

Education Agenda

EONS' President-elect, Dr Sara Faithfull informed members of the Advisory Council about recent developments in EONS' education strategy which include the provision of grants to national oncology nursing societies for the translation of EONS' curricula and the development of several new educational initiatives including the Facilitation of Cancer Education and Teaching (FaCET) package designed to encourage implementation of the society's 2005 Post-basic Curriculum in Cancer Nursing and plans for the development of a new Breathing and Respiratory Education Training for Health Care Professionals (BREATHE) e-learning project. This will commence with a training needs analysis in June 2007 and will be followed by the development of distance learning materials by an international panel of experts and a 'train-the-trainers' programme for those involved in the implementation of the project. Other projects being considered for the future include the development of separate curricula for supportive and palliative care for cancer patients, breast care, rehabilitation, surgical oncology and bone marrow transplantation, and more imminently, a simplification of the applications procedure for EONS accreditation of short courses, conferences and study days.

EONS Awards and Nominations

Submissions are invited for the TITAN Dissemination Project Award which is supported by an unrestricted grant from AMGEN (Europe) GmbH. Dissemination projects completed for TITAN courses between October 2005 and October 2006 are eligible, and should be nominated by TITAN course organisers. Nominations will be judged by an international panel of nurse experts and the winning project will be presented to delegates at the European Cancer Conference (ECCO 14) in September 2007. Nominations should be submitted to the EONS Secretariat no later than Friday, March 31st 2007 and further information about the nomination process can be obtained from the TITAN zone on the EONS website at www.cancerworld.org/EONS

SIOP / EONS Special Project

Fifteen pairs of paediatric oncology doctors and nurses from a total of nineteen applications have been selected to attend a two-year series of action research meetings organised as part of a joint SIOP (International Society of Paediatric Oncology) Europe and EONS special project entitled: Collaboration Between Nurses and Doctors in Paediatric Oncology. The first meeting, to be held in Milan during November 2006 will be attended by participants from Belgium, the Czech Republic, Estonia, France, Germany, Greece, Lithuania, Poland, Switzerland, Serbia, Spain, the Netherlands and the United Kingdom. Participants will consider recurrent practices in respect of multi-professional working, the need for improved communication, knowledge and skills, and the development of new organisational models and ways of working within the field of paediatric oncology. Regular updates on the progress of this project, supported with FECS special funding, will appear within EONS News as the project progresses.

We're celebrating!

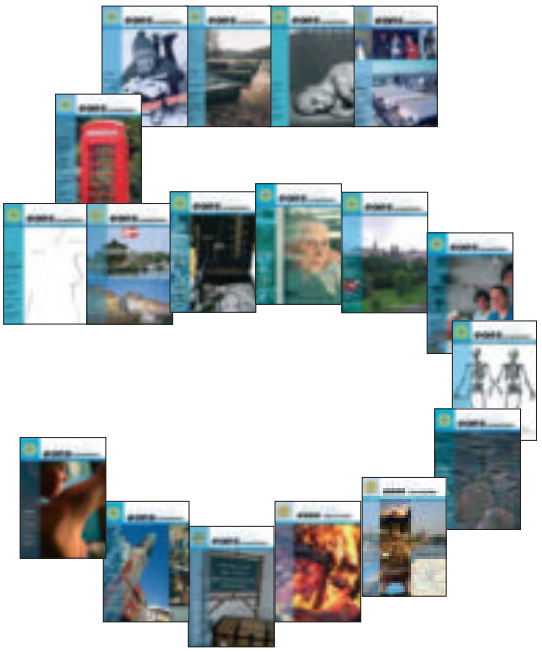
The Newsletter is 5 Years Old

The first issue of the Newsletter, in its present format, was launched at the ECCO 11 in Lisbon. That issue, which contained a meagre eight pages, looked and read much different than the 28-page issue you are holding in your hands: the cover was white, the print font was larger, and there were no articles related to state of the art issues in cancer nursing. That rather plain first issue was dressed up and the issues that followed became more sophisticated in appearance, layout, and content.

Issues of the Newsletter are now theme-based. Past themes have included education, neutropenia, the elderly cancer patient, fatigue, and breast cancer to name only a few and topics for future issues are plentiful! Observant readers have surely noticed that each issue also contains recurrent features such as 'Our colleagues from', 'EONS News' and updates on projects.

The members of the Editorial Team are quite pleased with the product they produce on a quarterly basis. The process of transforming the Newsletter into a high-quality publication has been one of trial and error with some downs but many ups. We have learned not to look for mistakes in each issue but rather to focus our energies on making corrections that will make the Newsletter a true vehicle of communication between EONS and its members – transmitting accurate and helpful information in a timely manner.

On this occasion of celebrating 5 years of publishing the EONS Newsletter, the News Team would like to thank all members who have taken the time to write articles or to relay suggestions to improve the Newsletter. Gratitude is also extended to corporate sponsors who have provided financial support which has enabled the News Team to implement new ideas and publish a better newsletter. It is our sincere hope that readers find something of interest in every issue – and if they do, then we are fulfilling our goal.



News from TITAN

The acronym TITAN, which stands for the training initiative in thrombocytopenia, anaemia and neutropenia, an EONS programme, hardly needs an introduction. Over 2'000 nurses have taken the course in 21 European countries and TITAN has now spread worldwide, with Australia running its debut course in November.

Thanks to the huge effort from national societies, and Amgen support, the updated TITAN 06 course has now been translated into an impressive number of languages including: Danish, Dutch, English, Finish, French, German, Icelandic, Italian, Polish, Slovenian, Spanish, Swedish, and Turkish. EONS is currently creating a library of translated course material, so that it can be made available to other countries. In addition, grants are still available for those countries that need assistance in translating materials for the first time. If you would like to apply for a grant, please contact the EONS secretariat (eons@village.uunet.be) and you will receive the necessary information. Certainly, the opportunity for nurses to receive the course in their mother tongue is incredibly valuable, allowing them to focus on the content and discuss any issues freely.

The course provides nurses with an opportunity to implement their own initiatives for improving patient care, by leading a dissemination project. Completing a project, however small, receiving positive feedback and seeing the beneficial effects can be immensely satisfying. For those who have completed a successful project, there are more opportunities ahead. National Oncology Nursing Societies (NONs) are currently collating valuable projects, in order to submit the best national project to EONS for the 2006 Dissemination Project Award (see the notice in this newsletter). The winner will receive free registration for ECCO 14, which takes place in Barcelona, September 2007, where they will present their prize-winning work. In a separate initiative, Amgen would like to know about, and potentially support, the publication of other interesting project(s). Support for presenting or publishing particularly innovative or high-impact programmes will be determined on a case-by-case basis. Interesting projects, for instance, can be submitted to the ECCO/EONS meeting next year. **Please inform your Amgen representative of any and all projects resulting in a positive impact – no matter how small** (they will be briefed on what to do next). Let's show and share with one another what the TITAN programme and its nurse participants can do.

Feedback from TITAN participants and organisers is continually monitored in order to improve the course content and organisation. In response to such feedback, EONS has provided inspiration for dissemination projects in the form of slides showing how implementation of new, evidence-based clinical practice guidelines into local practice can result in significant improvements in patient outcomes. Throughout 2006, the EONS secretariat has provided up-to-date information on new publications relevant to the course material in the quarterly TITAN e-newsletter. The e-newsletter also provides a progress report and news of forthcoming TITAN activities – look out for the next edition in December!

EONS secretariat and the TITAN Working Group are now looking forward to 2007, when the course materials will be revised to incorporate the latest information on thrombocytopenia, anaemia and neutropenia; in the meantime, they wish all TITAN participants a very happy and safe holiday season!

For more information about TITAN please contact the EONS Secretariat (Rudi Briké, Avenue E. Mounier 83/8, B-1200 Brussels, eons@village.uunet.be) or visit the TITAN zone on the EONS website www.cancerworld.org/EONS.

The Art of Patient Assessment

Sara Faithfull PhD, MSc, BSc(Hons), RN, Director of Studies Doctorate of Clinical Practice, Surrey University, Guildford, UK

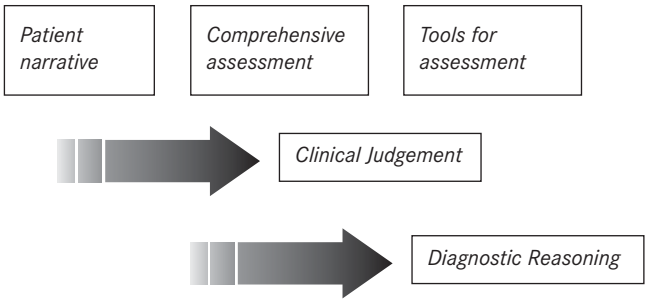
Vast arrays of assessment tools exist for those working in oncology. Despite the variety of tools available, there is little consistency in clinical assessment between cancer centres or even between nurses within a centre. Part of the problem is that assessment requires more than tools – it is an art. The acquisition of skills for assessment is essential for the novice as well as the advanced cancer nurse not only to evaluate the needs of individuals and families but also to be able to make clinical decisions and deliver appropriate nursing interventions. Assessment skills are often under valued. Appropriate assessment entails skilled observation, clinical reasoning as well as a theoretical knowledge base (Smith et al., 2004). Understanding how assessment frameworks and tools can be used in cancer practice is key to delivering appropriate symptom management and supportive care at the right time. Inadequate assessment and poor documentation have presented a major problem for those trying to evaluate the effectiveness and impact of cancer treatment. Furthermore, a lack of appropriate assessment affects not only patient outcomes, but also service provision and patient access to health and social care resources.

Illness changes over time, and this is especially relevant in cancer as a chronic disease. Symptom characteristics may change or distress levels may rise as more side effects occur or coping mechanisms change. This suggests that longitudinal measurement of multiple symptom dimensions is essential in order to characterise accurately the long-term impact of cancer and treatment. Symptom measurement is only one aspect of comprehensive assessment but the routine use of assessment tools for symptoms, other than pain, has not been systematically explored. This is unfortunate given the high levels of distress that fatigue or other symptoms can cause. Research in patients with breathlessness (Sarna, 1998) has demonstrated that comprehensive symptom assessment can improve patient outcomes through careful ongoing monitoring and prompt intervention. Assessment checklists can help to focus staff's attention on symptom assessment (Dennison & Shute, 2000). More detailed measures can also be used as a means of reviewing the quality of patient care or in exploring patient psychosocial needs (Bottomley & Jones, 1997).

Assessment has been defined as the systematic and continuous collection, validation and observation of patient health state (Bickley, 2004), (Jarvis, 2004). Assessment uses multiple nursing skills and

consists of comprehensive assessment, clinical judgement and diagnostic reasoning.

Box 1. Nursing assessment model



If we are to establish patient-centred care then the starting point must be thorough comprehensive assessment. Thorough assessment is crucial to ascertain a correct diagnosis, facilitate expression of the meaning and subjective nature of illness and plan effective interventions that meet an individual's specific needs. Theoretical knowledge is required to carry out assessment: health care professionals need to understand the impact of cancer signs, treatment side effects, understanding of illness, and the physical and psychological impact of diagnosis and treatment. Frameworks for assessment such as SOAP (Subject, Objective, Analysis, Plan) are helpful in formulating the process. A comprehensive assessment covers physical and psychosocial domains.

Box 2. Physical and psychosocial domains included in a comprehensive assessment

- Cardiovascular system
- Respiratory system
- Alimentary
- Genitourinary
- Musculoskeletal
- Neurological
- Mental State
- Psychological
- Social
- Cultural/health beliefs
- Spiritual
- Life cycle
- Risk factors
- Family history

Analytical and intuitive methods of clinical judgement are also crucial elements of assessment. These are often described as "perceptual awareness" where knowing how (theoretical knowledge) and knowing that (practical knowledge) work to complement each other (Benner & Wrubel, 1989). Educators are aware that reasoning and problem solving skills transfer poorly across domains within health and social care (Scott-Smith, 2006). Rather than thinking about illness in a one-dimensional way, such an approach requires skills to draw together connections between physiological changes and the important contextual factors that influence cancer illness severity or distress. A major issue in nursing consultations is to understand the patient's perception of what might be wrong by using active listening and understanding the personal perspective (Sainio & Lauri, 2003).

Clinical assessment is complicated by the fact that people describe illness in different ways. For example, fatigue is often identified as anything from exhaustion to tiredness. There are three basic commonalities in describing symptoms, an understanding of which promotes good clinical judgment. First, that all symptoms represent a common core of distressing events that happen to people, and that we can use the same or similar methods for measuring different symptoms. For example, from our own personal experience we know when we have a cold and how we feel about it, as well as being able to make judgments about how severe it is and whether or not the symptoms are interfering with our lives. Patients with cancer use the same process. By accessing their own judgements and perceptions we can effectively use self-assessment to understand their symptoms (Crow et al., 1995), (Thompson, 1999). Secondly, we should focus on what patients tell us. Recognising and legitimising symptoms is an important first step to being able to understand the implications of the illness experience. Patients' own perception of what is difficult or bothersome may not be what clinicians perceive (Schou & Hewison, 1999). Thirdly, we need to plan and use systems in the clinical environment if we are to assess symptoms effectively. During a clinic visit, it may be left up to patients to mention if they have a particular symptom, but they may not have a way of describing the changes they are experiencing as a result of treatment, or may feel they are insignificant and as such unimportant. If there is no structure to the assessment or clinical history, there is more chance that personality; language and communication style will inhibit the recognition of illness. Standardising questions and using tools for assessment can dramatically reduce variations in assessment technique.

There are significant attitudinal and practical challenges to comprehensive assessment in the clinical setting. Studies indicate that nurse's theoretical knowledge outweighs their clinical skill performance and this hinders clinical decision-making (Bird & Wallis, 2002). This requires education at all levels in enhancing assessment skills both physical and psychosocial as well as teaching critical thinking and reasoning skills (Simpson & Courtney, 2002), (Junnola et al., 2002). The large volume of patients undergoing treatment at any one time makes routine comprehensive assessment on all occasions ambitious. The potential conflict between the demands of routine clinical practice and research necessitates the identification of core assessment criteria for the recording of patient outcomes and the evaluation of treatment, a multidisciplinary responsibility. The assessment of specific problems faced by those undergoing palliative and curative treatment requires skill and experience. There is a need to set up educational and organisational structures that support systematic assessment by cancer nurses.

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Prescribing information (refer to full data sheet or summary of product characteristics before prescribing). **Therapeutic indications:** Prevention of skeletal events (pathological fractures, bone complications requiring radiotherapy or surgery) in patients with breast cancer and bone metastases. Treatment of tumour-induced hypercalcaemia with or without metastases (only IV Bondronat). **Dosage and administration:** For oral and intravenous administration. *Prevention of skeletal events in patients with breast cancer and bone metastases:* 50mg oral Bondronat daily (taken with a glass of plain water after an overnight fast (at least 6 hours) and 30 minutes before the first food), or 6mg IV given every 3–4 weeks infused over 1 hour. *Treatment of tumour-induced hypercalcaemia:* Bondronat should be used only by physicians experienced in the treatment of hypercalcaemia. Prior to treatment with Bondronat the patient should be adequately rehydrated with 0.9% sodium chloride. In most patients with severe hypercalcaemia (albumin-corrected serum calcium >3mmol/l, or >12mg/dL) 4mg is an adequate single dosage. In patients with moderate hypercalcaemia (albumin-corrected serum calcium <3mmol/l, or <12mg/dL) 2mg is an effective dose. Repeated treatment may be considered in case of recurrent hypercalcaemia or insufficient efficacy. Bondronat concentrate for solution for infusion should be infused over 2 hours. *Patients with hepatic impairment:* No dosage adjustment is expected to be necessary. *Patients with renal impairment:* No dosage adjustment is necessary for patients with mild or moderate renal impairment where creatinine clearance is equal to or greater than 30mL/min. Below 30mL/min creatinine clearance, the dose for prevention of skeletal events in patients with breast cancer and bone metastases should be reduced to 50mg oral weekly or 2mg IV every 3–4 weeks, infused over 1 hour. *Elderly:* No dose adjustment is necessary. *Children and adolescents:* Safety and efficacy have not been established in patients less than 18 years old. **Contraindications:** Hypersensitivity to the drug substance or to any of the excipients. Should not be used in children. **Precautions:** *Caution:* Hypersensitivity to other bisphosphonates. Clinical studies have not shown any evidence of deterioration in renal function with long-term Bondronat therapy. Nevertheless, according to clinical assessment of the individual patient, it is recommended that renal function, serum calcium, phosphate and magnesium should be monitored. Overhydration should be avoided in patients at risk of cardiac failure. Patients should receive supplemental calcium and/or vitamin D if dietary intake is inadequate. Caution is advised when bisphosphonates are administered with aminoglycosides, since both agents can lower serum calcium levels for prolonged periods. In clinical studies, Bondronat has been administered concomitantly with commonly used antitumour agents, diuretics, antibiotics and analgesics without clinically apparent interactions occurring. Oral bisphosphonates have been associated with dysphagia, oesophagitis and oesophageal or gastric ulcers. Therefore, patients should be instructed to discontinue Bondronat and seek medical attention if they develop symptoms of oesophageal irritation such as new or worsening dysphagia, pain on swallowing, retrosternal pain, or heartburn. Caution with concomitant NSAIDS. **Pregnancy and lactation:** No adequate data. Therefore, Bondronat should not be used during pregnancy. Caution should be exercised when using in breast-feeding women. **Undesirable effects:** *Prevention of skeletal events in patients with breast cancer and bone metastases:* IV Bondronat – infection, parathyroid disorder, headache, dizziness, dysgeusia, cataract, bundle branch block, pharyngitis, diarrhoea, skin disorder, ecchymosis, myalgia, arthralgia, joint disorder, osteoarthritis, asthenia, influenza-like illness, oedema peripheral, thirst, gamma-GT increased, creatinine increased. Oral Bondronat – hypocalcaemia, asthenia, dyspepsia, nausea, abdominal pain, oesophagitis. For other rare events, please consult full PI. *Treatment of tumour-induced hypercalcaemia:* Treatment was most commonly associated with a rise in body temperature. Occasionally, a flu-like syndrome consisting of fever, chills, bone and/or muscle ache-like pain was reported. Hypocalcaemia, Hypersensitivity, Angioneurotic oedema, Bronchospasm. **Overdose:** No experience of acute poisoning. *IV overdose:* Kidney and liver function should be monitored. Hypocalcaemia should be corrected. *Oral overdose:* Possibly upper gastrointestinal events, such as upset stomach, heartburn, oesophagitis, gastritis or ulcer. Milk or antacids should be given to bind Bondronat. **Legal category:** ATC Code: M05B A 06. **Presentations:** Bondronat 50mg tablets, Bondronat 2mg/2mL, Bondronat 6mg/6mL.

References: 1. Body JJ et al. Ann Oncol 2003;14:1399–408. 2. Body JJ et al. Br J Cancer 2004;90:1133–7. 3. Body JJ et al. Pain 2004;111:306–12. 4. Dell'Agnola C et al. Eur J Cancer 2004;40:1704–12.

ECCO 14

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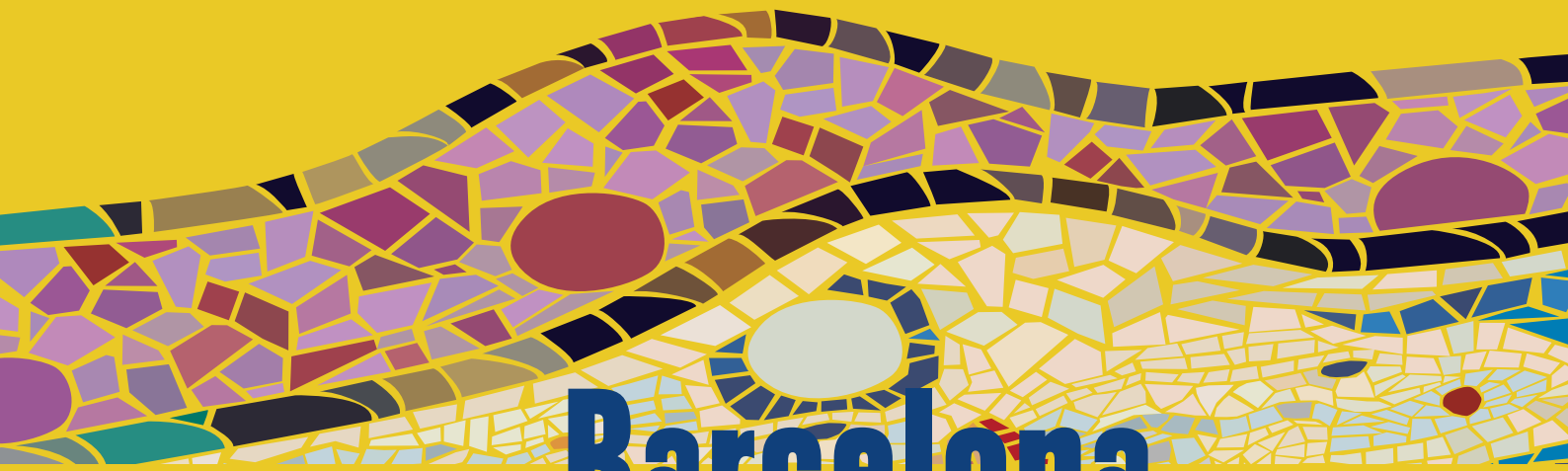

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Nelson Mandela
1918

Communication

EONS, as the recognised representative of European oncology nurses at the Federation of European Cancer Societies (FECS), furthers and facilitates communication between EONS and its membership, as well as the communication between the different member societies.

EUROPEAN ONCOLOGY NURSING SOCIETY

Recipient of ONS International Award

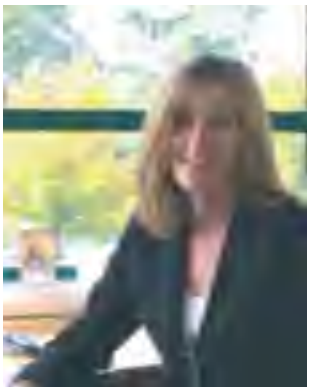
Jan Foubert

EONS is pleased to announce that Jan Foubert, immediate past president of the society, has been awarded the Oncology Nursing Society's 2007 International Award for Contributions to Cancer Care. The award includes an honorarium, one-year ONS membership, one round trip airfare to the ONS annual congress, waiver of congress registration fee and a plaque.
In its notification of the award, ONS noted that Jan's resourcefulness and commitment to establishing oncology nursing and patient education programmes in his country and region were commendable. Further, his list of accomplishments was inspiring; he has contributed to the transformation of the delivery of quality cancer nursing care in Europe.

The special award will be presented during the opening ceremony of the 2007 Annual ONS congress to be held on Tuesday, April 24th. Jan will also receive recognition trough press releases, on the ONS website and in the 2006-2007 Recognition of Achievement Award booklet, which is distributed at Congress and sent to all ONS members.

Excellence in Care of the Older Adult with Cancer Award

Nora Kearney



EONS is pleased to announce that Nora Kearney, past president of the Society, has been awarded the Oncology Nursing Society's 2007 Excellence in Care of the Older Adult with Cancer Award. In its notification of the award, ONS noted that Nora was very deserving of the award for her contribution within cancer care as a champion for older people through the development of education and research initiatives.

Nora will be recognized as the 2007 Excellence in Care of the Older Adult with Cancer Award recipient through a poster display during the 2007 ONS Annual Congress in Las Vegas. Nora will also receive recognition through press releases, on the ONS website and in the 2006-2007 Recognition of Achievement Award booklet, which is distributed at Congress and sent to all ONS members. The award includes an honorarium, and a plaque.

EONS Member Honoured by the Swiss Cancer League

Anita Margulies

EONS member Anita Margulies has recently become the first nurse to be honoured by the Swiss Cancer League for her contribution to cancer patient care over the course of a remarkable 37 year career as a cancer nurse, educator and patient advocate. The award, given to individuals who have demonstrated exceptional engagement with the needs of cancer patients and cancer prevention recognises her pioneering work which includes co-authorship of the authoritative German text 'Onkologische Krankenpflege' – already in its fourth edition, contributions to 'Medikamente in der Tumortherapie' and the development of numerous patient education and information resources, nursing standards and guidelines on behalf of the Swiss Oncology Nursing Society. Anita, who originates from New York in the USA has laboured unflinchingly for the benefit of cancer patients in her adopted home country where she works in the ambulatory unit and polyclinic for oncology at the University Hospital of Zurich. She is an active member of both EONS and the Swiss Oncology Nursing Society and continues to develop the next generation of cancer nurses in her joint lecturing role at the University. Anita is warmly congratulated by the members of both societies for her many achievements to date and for winning this prestigious and well-deserved award.

‘A hobby which got out of control’

the Author’s Verdict on the 2006 Excellence in Patient Education Award Winner

Interview by Steve O’Connor with Arno Mank

In the last edition of EONS News, we reported briefly on the twenty one entries from nine European countries submitted for the 2006 Excellence in Patient Education (EPE) Award before announcing that the international panel of judges had chosen an entry from the Netherlands to be this year’s winner. The winner, a CD-rom entitled, ‘The Patient’s Journey: From chemotherapy to stem-cell transplantation’ was designed and produced by Arno Mank and a multi-professional team of technicians and clinicians from the Department of Haemato-oncology at the Academic Medical Centre in Amsterdam. Using a mixture of animated diagrams, photographs and video-clips, the package provides patients with a clear explanation of the disease process and its treatment, practical information about the hospital, an introduction to the staff involved in caring for cancer patients in its haemato-oncology unit, and a series of patient interviews which provide viewers with an honest and immediate account of their experiences during treatment.

The CD-rom was particularly praised for the realistic but hopeful and positive outlook that these interviews engendered, and for the great wealth of practical information provided to both patients and their families that it contained. It is unlikely however, that the judges realised just how long the project had been in the making, or the degree of passion and commitment demonstrated by Arno and his team in producing such a high quality product, but there is no doubt that the tremendous effort paid off, as EONS News team member Stephen O’Connor (SO) found out when he interviewed Arno about the project a short time ago.

(SO) At a time when so many patient education materials are still provided in written format, what led you to consider producing a CD-rom for your patients?
(AM) Patients want more and more information those days. The internet is a big source of information but it is difficult to discriminate between reliable and unreliable sources. We decided that a CD-rom held more possibilities and knew from the literature that information sticks better in people’s minds if you give it in varied formats. It gives better results. That’s very important I think. Patients still receive verbal information, but the CD provides them with a reminder of what they might have been told many weeks before their treatment started. Many patients have problems reading, listening or remembering what was said, so this can help them and overcomes problems experienced by healthcare providers such as lack of time or knowledge etc.

(SO) What sort of clients is the CD-rom given to?
(AM) We give it to stem cell transplantation patients who are going to be treated in the future and also to patients from other hospitals who come to our hospital for treatment. But we also give it to others we think might benefit because there is a lot of information about chemotherapy and radiotherapy, and the disease process itself of course. At first it was only intended for stem-cell transplant patients but later on we realised that we could also use it for other patients and it seems to work quite well for them too.

(SO) When is the CD-rom given to patients?
(AM) It is given normally when they are first put on the list for stem-cell transplantation in the out-patient clinic. They are consented and informed in just the same way that they were before, but now they also get the CD-rom to take home so that they can look at it at home with their relatives or even in the middle of the night if they want to.

(SO) How many copies of the CD-rom have been distributed so far?
(AM) So far about forty to our own patients, and also to a number of patient groups from other hospitals who have given them out too.

(SO) What attempts have you made to evaluate its use?
(AM) I am doing a survey and am just beginning to evaluate the results. I hope to have it finished by the end of the year – but so far they are very happy with it. What they particularly like is that if they are watching the section on say, leukaemia, they can click on the picture of the person (at the bottom of the screen) who might have something to say about leukaemia and then hear what they have to say about it or listen to the whole patient interview if they want.

(SO) The patient interviews are very helpful – did you use actors or real patients when making the CD?
(AM) There are two of our own patients and some from patient groups who can easily talk to camera and are very relaxed about sharing their experiences. We wrote a list of about ten questions, what happened to them and how they felt about it – those sorts of things; and they were then interviewed on camera with the help of a clinical psychologist. All the patients were asked the same questions and we edited the content to fit in with the content of the CD-rom. Because we used some patients from patient groups they were already quite confident talking about their experiences of the disease and its treatment. The information had to be realistic – even when things have not gone well or there have been problems. The important thing is to let people know what can be done for them. Positive but realistic - that’s the way we handled the questions.

(SO) Have any particular groups had problems using the CD-rom?
(AM) One subject we talked about before the project started was ‘what about elderly patients?’ – but we have realised more and more that they also have a CD-rom player at home. We looked at the literature and found that there were hardly any differences in the use of the technology by older or younger patients, but they can also give it to their son or daughter to watch if they want. I know of one elderly patient who made copies for both his son and daughter so that they could talk about it together.

Chapter 6 Going home: Nutrition

(SO) What about minority groups? Have you thought about translating it into other languages?
(AM) Yes we have because here in Amsterdam we have people from about 150 different countries. We are thinking of translating it into English which a lot of people understand, but Spanish and Turkish might also be a possibility.

(SO) How was the CR-rom produced?
(AM) We made it all in our hospital. We have a little group here who make posters and videos of operations – that kind of thing. We talked about it for about half a year and then we decided to go ahead with it. Lots of people were involved but it was produced entirely by people at the hospital. They are going to go to Leiden now and help them with their version – so it's becoming almost a professional form of work for them – but very worthwhile.

(SO) How long did it take to produce?
(AM) It took a lot of time and a lot of work. There's nothing similar in the Netherlands, so we had to take our time and talk to different people about how to do it... It took four years altogether – not constantly, but starting with the idea and ending up with the result.

(SO) How was the project funded?
(AM) I had to arrange a little bit of the money myself but they (the hospital reprographics department) arranged some of it because they thought it was such a good idea, and the hospital paid some as well. I also got some money from the blood bank and some from pharmaceutical companies. I told them that there would be no logo's and no mention of their products in the CD-rom and they still supported it with several small amounts – but the main sum was paid by the hospital itself because they believed in its value.

(SO) Do you have any plans to develop the project any further?
(AM) We developed the project in such a way that you could use it for other cancer treatments or non-cancer treatments as well. It can be changed easily and even adapted for other illnesses. Two other hospitals are already interested. One hospital is going to change it for its own purpose, they will just put in information about their own hospital... and the biggest hospital in the Netherlands (Leiden) is going to adapt it for their use as well. There are some other hospitals who are also very interested.

(SO) How will you be using the prize money from the EPE award?
(AM) We are not going to use it for the CD-rom itself. We are going to do something fun with it for the whole team. I can't say what at the moment [laughing] as someone is in the room and can hear! It's meant to be a secret – but something that will be fun for everyone!

(SO) What was the most valuable thing you learned from undertaking the project?
(AM) The most difficult part was setting up the whole thing. Deciding what you would put in and what you don't put in. Sorting out the sequencing of the scripts and things like that. This is not a special part of my job – it's a hobby which went out of control! I came here about eighteen years ago and the first thing I saw was that patients get so much information that we have to do something to structure it.

(SO) What advice would you give to others who might be thinking about doing something similar?
(AM) It is getting more and more easy to make these things and you don't have to make it so complex, but I think it would be very important to give the information and also include some context with the patient interviews. You have to think about it a lot, but the results are very worthwhile.

(SO) Are there any other members of the production team that you would like to thank specifically?
(AM) We were helped a lot by our haematologist, Hans van der Lelie and in particular, I would like to express my thanks to Tineke Wieringa, who directed the whole programme but sadly, died of cancer herself just a few weeks after the project finished. She empathised so much with the patients being interviewed but it was her last project and she very much wanted to finish it. It was a very brave decision and a great tribute that she achieved her wish. I would also of course, like to thank all of the patients who were involved in the project for their invaluable contribution and for sharing their experiences with others.

Cover of the CD-rom

Listening to Arno talk about his pet project with so much enthusiasm was an enjoyable and gratifying experience. So often, we feel that we need to produce results quickly; but in this case, it is clear that the time taken to consult widely and involve others in the planning process has paid a handsome dividend. It is encouraging too, to see how his vision for quality patient education had captured others' imaginations and stimulated them to make full use of the wide range and scope of their abilities when it might have been so much easier to take the easy option and contract the production of the patient education package out to a professional organisation or company. In many respects, his approach to the project epitomises so much of what is excellent in cancer nursing – the vision and drive to help others, a willingness to listen, learn and work collaboratively with all those in the multi-professional team (which in this instance, went beyond the bounds of the clinician's skills alone) and most importantly; a desire to put patients at the centre of our plans and activities as able and willing partners in the fight to improve cancer patient care.

How telling too, that he and the team are not averse to enjoying the fruits of their labours and doing something 'fun' together in celebration of their success and in spite of their own losses within the team; for it is this life-affirming spirit that makes cancer nursing what it is, and this nomination in particular, a worthy winner of the 2006 Excellence in Patient Education Award. We would like to express our sincere congratulations to Arno and the team at the 'AMC' and our thanks to Amgen for sponsoring the award for the last two years. This piece is dedicated to the memory of Tineke Wieringa and all those who give unselfishly of themselves for the benefit of their fellow cancer patients. Their example reminds us daily that education is a two way process, and we stand to learn much more from their lived experience of cancer than we could ever possibly teach them from any amount of 'head knowledge' about the disease, its treatment and its impact on people's daily lives.

Nurse Prescribing in the United Kingdom

Shelley Dolan, Nurse Consultant Cancer and Critical Care, Head of Nursing Research, Royal Marsden NHS Foundation Trust

In the United Kingdom (UK) since 2000 there has been increasing consultation regarding extending prescribing by non medical personnel including nurses, pharmacists and allied health professionals (AHPs). The rationale for these discussions has been the imperative to minimise delay and optimise patient centred care especially in settings where there are fewer medical staff such as the community. Over the last few years there has been a gradual change to prescribing culminating in May 2006 with the whole of the British National Formulary (BNF) being opened to nurses who are independent prescribers. This paper will summarise this journey over the last six years and clarify how the present situation applies to cancer nurses and people with cancer in the UK.

Community nursing and health visiting practice
More than 29,000 community nurses and health visitors in the UK who have undergone specific training have, since 1994 in the first pilot and then across the UK in 1999, been able to prescribe from a limited Community Practitioner's Formulary (Hall 2005). This Formulary contains 13 prescription-only medicines (POMs), some pharmacy (P) and general sales list (GSL) medicines, and a list of dressings and appliances. To be able to prescribe from the entire BNF, community nurses and health visitors need to undertake further training.

Patient Group Direction
In 2000 in a move to improve patient-centred care and minimise treatment delay, the first steps were taken to extend prescribing in all situations including hospital care. The Patient Group Direction (PGD) is a written instruction for the supply or administration of a licensed medicine in an identified clinical situation where the patient may not be identified before treatment (HSC 2000/026). Examples of a PGD used by cancer nurses is for the administration of local anaesthetic during nurse-performed surgical removal of a central venous access device and for the administration of heparinised saline to regularly flush a central venous access device. The PGD is designed locally by nurses, doctors, pharmacists and must then meet certain legal criteria, be signed by a doctor and pharmacist, and approved by the relevant personnel in the organisation. The local organisation then decides which nurses can supply and administer the drug under the PGD and maintains a list of their names. PGDs are useful for routine, elective situations where protocolised care is appropriate and where the PGD offers an advantage for the patient without compromising safety.

Many hospitals in the UK have developed and used the PGD but use is limited to elective routine care. The nurse using a PGD must act as always within her own expertise and competency (DHa 2006). Examples of PGDs that have already been developed can be found on the PGD website: www.portal.nelm.nhs.uk

Supplementary prescribing
Supplementary prescribing was introduced in 2003 for nurses and pharmacists and then extended to other health professionals (physiotherapists, radiographers, chiropodists, podiatrists, and optometrists) in 2005. Supplementary prescribing is where a medical prescriber and a supplementary prescriber in agreement with the patient design an individual patient-based clinical management plan (CMP). The supplementary prescriber (the nurse) can then prescribe any medicine that is referred to in the plan until the CMP is reviewed by the medical doctor. Supplementary prescribing are useful in certain health care settings and patient situations such as:

- Rural areas where a doctor is less easily accessible
- Specific long term conditions
- Mental health
- Situations involving controlled drugs (DHa 2006).

Supplementary prescribing has been used by clinical nurse specialists and nurse consultants in cancer care to prescribe maintenance drugs during nurse-led clinics. In cancer care this might be prophylactic anti-microbials in the post bone marrow transplant setting or symptom management such as pain control in the chronic or palliative setting. The training for supplementary prescribing is incorporated into the independent prescriber courses described below.

Independent nurse prescribing
The development of nurse independent prescribing is a key part of the National Health Service plan to empower front line staff to develop their role and deliver a patient-centred service making it easier for patients to get the medicines they need (DHa 2006). Nurses need to have been registered for over three years to undergo the training to become an independent nurse prescriber. They then need to attend a specific approved course of preparation and training which is delivered by universities across the UK. The six month part-time course covers aspects of pharmacology, diagnosis, legal issues, ethics, prescribing dos and dont's and patient scenarios (Duffin & Doult 2006). There are at least 26 study days followed by 12 supervised days in practice. During the course nurses must be supervised by a designated medical doctor. Nurses who successfully pass this course must register their qualification with the Nursing and Midwifery Council (NMC) before they can commence prescribing. Until May 2006 nurses could only prescribe from a limited formulary but from May 2006 onward this was expanded to include any licensed medicine for any medical condition that a nurse prescriber is competent to treat, including some controlled drugs (DHa 2006).

Independent nurse prescribers and controlled drugs
Following a change to the regulations on the Misuse of Drugs (ACMD), nurse independent prescribers can prescribe 13 controlled drugs, but only for specific medical conditions:

- Diamorphine, morphine, diazepam, lorazepam, midazolam, or oxycodone – for use in palliative care.
- Buprenorphine or fentanyl for transdermal – for use in palliative care.
- Diazepam, lorazepam, midazolam for the treatment of tonic-clonic seizures.
- Diamorphine or morphine for pain relief in respect of suspected myocardial infarction, or for relief of acute or severe pain after trauma including post-operative pain relief.
- Chlordiazepoxide hydrochloride or diazepam for treatment of intial or acute withdrawal symptoms, caused by the withdrawal of alcohol from persons habituated to it.
- Codeine phosphate, dihydrocodeine tartrate or co-phenotrope for a variety of conditions (DHb 2006).

For further details on controlled drugs that may be prescribed, visit the following web sites:www.ppa.org.uk and www.bnf.org.uk.

Discussion about independent nurse prescribing

There has been heated discussion coming from both nurses and doctors about the introduction of independent nurse prescribing. The Chairman of the British Medical Association's General Practitioners Committee felt that only doctors had the necessary diagnostic and prescribing training and experience (Meehan 2005). Some nurses also voted against nurses obtaining prescribing rights citing concerns about increased workload and problems with obtaining the funding to continue relevant professional education (Courtenay 2006). Doctors' leaders were keen to ensure that nurses would be competent to prescribe and would have the appropriate numeracy skills and pharmacology knowledge.

The benefits of nurse prescribing

In 2004 before the extension of nurse prescribing to the whole formulary was introduced, Lewis-Evans and Jester (2004) undertook a qualitative study to explore the experience of seven nurse prescribers in a Community Trust. The nurses underwent semi-structured interviews with the researchers and their transcripts were then analysed and thematic clusters generated. The nurses identified four major themes:

- Patient centred care
- Benefits of nurse prescribing
- Support and role satisfaction
- Prescribing difficulties (Lewis-Evans & Jester 2004, p.799).

The nurses found the experience of nurse prescribing predominantly positive. They described the benefits for patients who were able to have faster access and more convenient and improved continuity of care. The nurses also enjoyed the greater autonomy and benefited from time economies and improved collaboration with medical colleagues. The difficulties that the nurses described were essentially those associated with the limited formulary in 2004 and the increased amount of paperwork associated with prescribing (Lewis-Evans and Jester 2004). Other studies have described the benefits for patients as: approachability of the nurse, the nurse's style of consultation, specialist expertise and information provision, timely and convenient care (Brookes et al 2001, Luker et al 1997, Luker et al 1998, Courtenay 2006).

There are currently over 6,500 independent nurse prescribers registered in the UK. Many of these nurses work in cancer care or with people with chronic conditions. Most are advanced nurse practitioners and are able to use their prescribing to augment their care in nurse-led clinics or in outreach work in palliative care.

Conclusions

In conclusion, two key imperatives in the modernisation of the National Health Service in the UK have been: 1) to improve timely access to patient centred care; 2) to empower frontline staff to use their training and competence whilst maintaining patient safety. Independent nurse prescribing is one way that advanced nurse practitioners in cancer care can seek to improve patient-centred care. The guidelines for hospitals and prescribers encourage nurses to think creatively about how they can use this new skill to improve access to timely and appropriate care. We are lucky that we are at a time in nursing in the UK where some previously closed doors are beginning to open and it is essential that we maximise this opportunity for people with cancer and cancer nursing. The immediate challenge for cancer nurses is to ensure that we undergo continued professional development once we have registered as prescribers, and that we design audit and research activities to prospectively evaluate the added value of nurse prescribing for our patients and for nursing.

Further information on nurse prescribing in the UK can be accessed in more detail on the NHS prescribing website: www.npc.co.uk.

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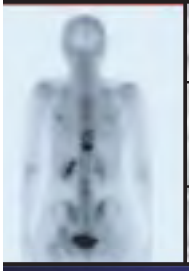
Accreditation Update

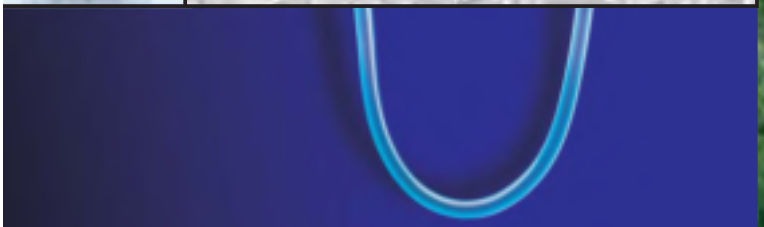
The following courses have received accreditation from the EONS Accreditation Council:

König & May GbR: Weiterbildung Palliative Care, Oberschwaben Klinik, Ravensburg, April/November 2007, longer course in German. More information: www.km-potsdam.de

First Masterclass in Oncology Nursing, St Julians, Malta, 24 February – 2 March 2007, organized by ESO and EONS, short course. Application deadline 1 December 2006.
More information: http://www.cancerworld.org/



HELP DEFEND YOUR PATIENTS' INDEPENDENCE WHEN BONE METASTASES STRIKE



ZOMETA® zoledronic acid

- ZOMETA helps defend the functional independence of patients with bone metastases by reducing and delaying skeletal-related events (SREs) and providing pain control[1-5]
- ZOMETA is the only treatment proven effective against SREs in a broad range of tumor types with a convenient infusion over no less than 15 minutes[1-3,6]

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ZOMETA® 4 MG POWDER AND SOLVENT FOR SOLUTION FOR INFUSION. PRESENTATION: Zoledronic acid. Vials containing 4 mg of zoledronic acid supplied as a powder together with ampoules containing 5 mL of water for injections for reconstitution. **INDICATIONS:** Prevention of skeletal-related events (pathological fractures, spinal compression, radiation or surgery to bone, or tumour-induced hypercalcaemia) in patients with advanced malignancies involving bone. Treatment of hypercalcaemia of malignancy (HCM). **DOSAGE:** For "prevention of skeletal-related events in patients with advanced malignancies involving bone," the recommended dose is 4 mg (reconstituted and diluted with 100 mL 0.9% w/v sodium chloride or 5% w/v glucose solution) given as an intravenous infusion of no less than 15 minutes every 3 to 4 weeks. Dose reduction is recommended in patients with preexisting mild to moderate renal impairment. For "treatment of HCM," the recommended dose is 4 mg given as a single intravenous infusion for no less than 15 minutes. No dose adjustment in patients with mild to moderate renal impairment. Patients without hypercalcaemia should also be administered an oral calcium supplement of 500 mg and 400 IU vitamin D daily. **CONTRAINDICATIONS:** Pregnancy, breast-feeding women, patients with clinically significant hypersensitivity to zoledronic acid or other bisphosphonates, or any of the excipients in the formulation of ZOMETA. **PRECAUTIONS/WARNINGS:** Patients must be assessed prior to administration of ZOMETA to assure that they are adequately hydrated. Monitoring of standard hypercalcaemia-related metabolic parameters such as serum levels of calcium, phosphate and magnesium, and, particularly, serum creatinine. Severe and occasionally incapacitating bone, joint, and/or muscle pain has been reported infrequently in patients taking bisphosphonates. In view of the potential impact of bisphosphonates on renal function and the lack of extensive clinical safety data in patients with severe renal impairment with ZOMETA, its use in this population is not recommended. Dose reduction in patients with preexisting mild to moderate renal impairment. In patients requiring repeated administration of ZOMETA, serum creatinine should be evaluated prior to each dose. If renal function has deteriorated, the dose should be withheld. Limited clinical data in patients with severe hepatic insufficiency; no specific recommendations can be given for this patient population. Overhydration should be avoided in patients at risk of cardiac failure. No experience in children. Patient should inform the dentist while under dental treatment or if dental surgery is foreseen. **INTERACTIONS:** Zoledronic acid shows no appreciable binding to plasma proteins and does not inhibit human P450 enzymes *in vitro*, but no formal clinical interaction studies have been performed. Caution is advised when bisphosphonates are administered with aminoglycosides since both agents may have an additive effect, resulting in a lower serum calcium level for longer periods than required. Caution is asked when used with other potentially nephrotoxic drugs. Attention should also be paid to the possibility of hypomagnesaemia developing during treatment. In multiple myeloma patients, the risk of renal dysfunction may be increased when IV bisphosphonates are used in combination with thalidomide. **ADVERSE REACTIONS:** Usually mild and transient and similar to those reported for other bisphosphonates: most commonly reduction in renal calcium excretion is accompanied by a fall in serum phosphate levels (hypophosphataemia); commonly flu-like syndrome consisting of fever, fatigue, chills, and bone, joint, and/or muscle pain; headache; elevation of serum creatinine and blood urea; renal impairment; anaemia; conjunctivitis; gastrointestinal reactions such as nausea and vomiting, anorexia, serum calcium may fall to asymptomatic hypocalcaemic levels; uncommonly thrombocytopenia, leucopenia; hypersensitivity reactions; hypertension, hypotension, resulting very rarely in syncope or circulatory collapse; shortness of breath, cough; dizziness, paraesthesia, taste disturbance, hypoaesthesia, hyperaesthesia, tremor, anxiety, sleeping disturbances; blurred vision; diarrhoea, constipation, abdominal pain, dyspepsia, stomatitis, dry mouth; local reactions at the infusion site such as redness or swelling; asthenia, peripheral oedema, weight increase, chest pain; rash and pruritus, increased sweating; muscle cramps, osteonecrosis (primarily of the jaw); acute renal failure, haematuria, proteinuria, hypomagnesaemia, hypokalaemia; rarely pancytopenia, confusion, bradycardia, angioneurotic oedema, hyperkalaemia, hypernatraemia; very rarely uveitis and episcleritis. **PACKS AND PRICES:** Country-specific. **NOTE:** Before prescribing, please read full Prescribing Information.

NOVARTIS ONCOLOGY

February 2006

G-ZOM-0007