



# EONS

## **eons** newsletter

The Quarterly Newsletter of the European Oncology Nursing Society

September 2002

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# Colofon

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The goal of the EONS Newsletter is to inform nurses about EONS and EONS activities and to inspire nurses throughout Europe to improve the care of the cancer patient.

The purpose of this Newsletter is to provide:

- Information on EONS activities
- Practical information of interest for the EONS members
- A networking forum for cancer nurses throughout Europe

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# Dear Colleagues,

## Welcome to the September issue of the EONS Newsletter!

*In this issue you can find hot stuff regarding two of the most common symptoms experienced by patients with cancer. Please find suggestions on how to create practical antiemetic guidelines and how to manage cancer-related fatigue. You can also learn more about our colleagues from Belgium. Do not forget to visit EONS website (<http://www.cancereurope.org>) to get updated with the latest information about what is happening within EONS! There you can soon also find information regarding the European Cancer Conference, ECCO 12, in Copenhagen, Denmark, 21-25 September 2003.*

Karin Ahlberg (former Magnusson), Editor-in-Chief

## Better education among oncology nurses could reduce devastating effects of CINV

The devastating effects of cancer – as well as the unpleasant side effects associated with chemotherapy, in particular hair loss and nausea and vomiting – are well known in today's world of educated patients, even among those fortunate enough to have never been stricken with the disease.

The medical community has made steady progress in the fight against cancer researching new compounds and developing innovative and effective management approaches to battle the disease. New data from a survey of oncology nurses conducted by the EONS in partnership with Roche, indicates that a lack of education and training in the management of chemotherapy induced nausea and vomiting (CINV) among oncology nurses could be having a negative impact on patients. These new findings are cause for concern, especially in light of the fact that trained oncology nurses often play a significant role in tandem with the oncologist in the overall treatment and care of patients.

*The survey revealed that after hair loss, nausea and vomiting are the two most common concerns expressed by patients when told they require chemotherapy (68% and 57% of respondents respectively). Further the results indicated that almost one-third of cancer patients still continue to suffer from the debilitating effects of CINV. This is despite the widespread availability of highly effective anti-emetic agents.*

We are all aware that nausea and vomiting can be extremely uncomfortable and potentially devastating to the quality of life of the patient undergoing chemotherapy. What is not so widely known is that its impact can result in some patients opting to delay or refuse further potentially life-saving treatment (1,2). However, it is generally accepted that full 24 hour coverage from nausea and vomiting together with simplicity in approach of anti-emetic management strategies are required if disruption to a patient's quality of life is to be minimised.

This new data may point to issues regarding patient communication and a serious and potentially widening gap in education and training of oncology nurses in the area of CINV management. While some patients may be highly informed and educated about their treatment options, through access to medical literature and data via the internet, many if not most patients rely solely on their cancer care team, primarily the oncologist and oncology nurse, to inform them about the latest management options that can improve their quality of life following chemotherapy.

As the President of EONS, it is my role and the role of our organization to further enhance continuing education and training for all oncology nurses, especially in areas where such improvements could greatly enhance a patient's outcome and quality of life.

In response to these survey findings, EONS will be further considering what could be done to support nurses in improving patient management of nausea and vomiting. Watch this space!

Giel Vaessen, President of the EONS

1 Osoba D, et al., *Support Care Cancer* 1997; 307-313.

2 Laszlo J, et al., *Antiemetics and Cancer Chemotherapy*, 1993; 1-5.

# Our Colleagues From...



# Belgium

## *Société des infirmier(e)s Belge en oncologie*

The name S.I.O. means Société des infirmières en oncologie, it represent the French Belgian association of nurses working in oncology.

Our society was founded in 1984.

### **Representation**

We are represented in our country at the Federation Nationale Neutre des Infirmières de Belgique: **F.N.I.B.** Since the beginning of the European Oncology Nursing Society, we are represented at a European level since the beginning of EONS.

### **Our objectives:**

- To gather together the practitioner of the nursing art in oncology
- To collect and broadcast informations concerning our speciality
- To share new experiences
- To improve the education in oncology for student nurses
- To maintain a permanent education in oncology
- To promote the quality of care
- To encourage and develop the research in oncology nursing care
- To disseminate our knowledge

### **Some realisations**

Since 1985: we have a yearly symposium

Since 1989: we participate at the formation in a specialisation in oncology in association with the E.I.U.L.B. nursing school

Since 2001: we allowed 4 grants for nursing student who starts on a specialisation in Oncology (post-graduate).

### **Support**

The members of S.I.O. receive four times a year a newsletter offering

information about pathologies or new therapies in oncology, an agenda for the events to come, information about developments in oncology, new initiatives and EONS news.

### **We offer a yearly symposium.**

We mostly have a theme, but the main goal of it is to present new developments and attitudes in oncology.

We just have presented our 18th Symposium on the 27th April.

The program contained:

- Immunotherapy in haematology
- The nursing aspect of the new onco-haematology therapy
- First experience in laser-therapy into the treatment of mucocites provoked by radiotherapy and/of chemotherapy Hormone therapy in the cancer treatment
- Inquiry: life quality of patients : first results presentation
- Co-ordinator: a new nursing function?
- A 4th year in specialisation in oncology: for which professional perspective?
- Cost of the cancer illness: what sort of intervention?

We are aware that the general oncology nurse, must work in poor conditions, and she has therefore not much time to spare in meetings or to read books, we exist to help and encourage her to study further and maintain her knowledge at the top level.

The main goal of these symposia is to satisfy those requirements and we hope to succeed in this way.

### **For more information you can**

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## **European Oncology Nursus propose *Initiatives against Fatigue***

**Fatigue is a common and highly pervasive symptom in people with cancer. The majority of people will have some degree of fatigue either arising from the underlying condition but also frequently caused by the treatment. For people who are already under the stress of coming to terms with their diagnosis and undergoing treatment the added burden of tiredness, lethargy and dissipation of energy can make coping more difficult and can precipitate depression. Yet, a straw poll of oncology nurse leaders from nine European and two North American countries who were asked about the status**

**of symptom control in their country showed that fatigue is clearly the 'poor relation' of symptom management. Pain and nausea and vomiting were addressed to varying extents but fatigue was a neglected area. While islands of excellence did exist, reports of inadequate assessment and few available interventions for fatigue were the commonest response of these nurse specialists.**

(Continued on page 6)

# Creating Practical Antiemetic Guidelines

Sussanne Borjeson, Sweden

*Despite significant advances in the prevention and treatment of chemotherapy induced nausea and vomiting (CINV), these side effects still remain major concerns for many cancer patients. This is especially true for delayed CINV following cisplatin where up to 60% of the patients continue to suffer from nausea and vomiting (1). Helping patients to prevent and manage CINV therefore continues to be a necessary and challenging area for nurses working in oncology. The nursing care involves several areas such as information and education to patient and family, risk assessment, providing adequate pharmacological and non-pharmacological interventions and performing a thorough evaluation of patient outcome. To achieve a successful control of CINV, a team approach is important especially regarding the pharmacological treatment.*

Adequate pharmacological treatment is crucial to achieve optimal control of CINV. During the last 20 years a large number of clinical trials have been performed to establish the most effective pharmacological treatment. For clinicians it may be difficult to synthesise the information available in the studies to make it applicable to the patient. Therefore, several groups and organisations have recently reviewed and synthesised the information, elaborating guidelines to aid in clinical practice (2-5). The guidelines are extensive, including a large number of references summarising the evidence presented in the literature. Recommendations for most clinical settings can be given through these guidelines.

However, it is unclear if, and to what extent, these guidelines are being used and implemented in everyday practice. There is a risk that practitioners find the guideline documents too lengthy and technical in nature. Modest differences also exist among the published guidelines, which can be confusing. The problem of implementation was recently highlighted in two Italian studies (6, 7) performed before and after the publication of MASCC antiemetic guidelines in 1998 (4). The studies showed both an under- and over-treatment of antiemetic drugs and they also identified barriers that hampered the progress towards optimal pharmacological use.

In an attempt to simplify the documentation found within the available antiemetic guidelines and provide the practitioner with an easy-to-use reference for antiemetic administration, a multidisciplinary and multinational group met in New York in April 2001. A number of members of the groups responsible for publication of existing guidelines were present as well as collaborating partners such as EONS. I was present as both a researcher working within the field and well as EONS representative. The overall aim of the meeting was to provide one document that represents the areas of strong consensus common to all the established guidelines. The document should be useful in practice and should be easy to follow. It should be a practical document rather than an academic one, but findings should be supported by good evidence.

## The goals for the meeting were:

- to unify the existing guidelines wherever possible (focusing on those emetic areas
  - a. of marked importance;
  - b. for which high quality evidence exists; and
  - c. in which a strong consensus or unanimity could be reached
- to establish charts and tools that display this information in clear, easy to use ways for all oncology physicians, nurses and pharmacists. In addition to paper charts consider web availability, palm pilot pages etc. Also to consider how distribution would occur, publication etc.
- to investigate the possibility of collaboration with different organisations to endorse the finished products

## Format and participants

The meeting was organised as a workshop attended by a total of 16 active participants representing a number of different organisations (ASCO, ASHP, Canadian Group, EONS, EORTC, ESMO, MASCC, NCCN, ONS, SWOG). In addition to these active participants, some observers from the FDA, sponsor companies and European Regulatory Agency were invited but were not active in the discussions.

The two-day workshop started by creating ground rules such as defining unanimity and what defines strong consensus and very good evidence. After this, discussions regarding classification of emetogenic risk categories and emetogenicity of chemotherapy drugs were initiated followed by suggested treatment options for each category. Finally, there was a discussion regarding dosing recommendations, unresolved issues and suggested further research. Before closing, issues regarding endorsement and tools to display information were considered.

The following is a summary of the meeting conclusions. A detailed report will be published in a scientific journal in the near future.

## Consensus results

The workshop participants acknowledged a significant body of published data, including the extensive guidelines previously mentioned (2-5) and agreed that some general statements could be made. These statements were based on very good evidence in the literature and were unanimously agreed upon.

The available 5-HT<sub>3</sub> receptor antagonists (dolasetron, granisetron, ondansetron, tropisetron) are equivalent both in terms of efficacy and side effects.

The lowest fully effective dose of each agent should be given. Oral antiemetics are equal to iv formulations. Single administration of antiemetics is as good as multiple doses. All participants acknowledged that CINV includes both an acute (day 1) and a delayed component (day 2 +) and that is important to separate both with regard to analysing and treating symptoms. This is of particular importance regarding treatment of delayed CINV where the underlying causes

are still relatively unknown and treatment recommendations therefore are difficult to provide. The timing of the actual start of delayed CINV is poorly documented as well as the number of days it may continue. Often recommendations for antiemetic treatment are given for 2-4 days.

The risk classification of chemotherapy agents made in the published guidelines were discussed and somewhat modified. Examples of the risk classification can be found in Table 1.

**Table 1**

<b>Examples of emetic risk of chemotherapy agents</b> <i>(generic names)</i>	
<b>HIGH</b>	Cisplatin Dacarbazine Cyclophosphamide (>1500mg/m <sup>2</sup> )
<b>MODERATE</b>	Doxorubicin Carboplatin Cyclophosphamide (<1500mg/m <sup>2</sup> )
<b>LOW</b>	Docetaxel Topotecan Mitoxantrone
<b>MINIMAL</b>	Vincristine Bleomycin Methotrexate (<100mg/m <sup>2</sup> )

Treatment options for each of the emetic risk categories were then agreed upon although total agreement, due to lack of published data, could not be achieved for all recommendations. This is for example the case with delayed CINV. Despite this, it is interesting to note that there were strong consensus regarding some key issues regarding delayed CINV:

- Preventive dosing is needed, at least for patients given high and moderate emetogenic chemotherapy
- Steroids are the key agents for delayed symptoms
- Two antiemetic agents are needed in greater risk settings

The recommendations take into account the emetic risk both in the acute and the delayed phase (Table 2).

**Table 2**

<b>RISK CATEGORY</b>	<b>ACUTE</b> <i>(Day 1 of chemotherapy)</i>	<b>DELAYED</b> <i>(Day 2 +)</i>
<b>HIGH</b>	5-HT3 receptor antagonist + Steroid	Steroid + Metoclopramide or Steroid + 5-HT3 ra.
<b>MODERATE</b>	5-HT3 ra. + Steroid	Steroid alone or Steroid + Metoclopramide/ 5-HT3 ra
<b>LOW</b>	Single agent (steroids, 5-HT3 ra. or other*)	No preventive measures
<b>MINIMAL</b>	No preventive measures	No preventive measures

\*other agent may be: dopamine antagonists, phenothiazines, butyrophenones

Also regarding dosing of the various antiemetic agents, data are lacking especially for delayed CINV. In Table 3 some dosing recommendations are given. In general, the same doses is recommended for highly and moderately emetogenic chemotherapy.

**Table 3**

<b>Drug (dosage)</b>	<b>Acute CINV</b> <i>(day 1)</i>	<b>Delayed CINV</b> <i>(day 2+)</i>
<b>Dolasetron</b>	iv: 100 mg or 1.8 mg/kg po: 100 mg	po: 100 mg daily
<b>Granisetron</b>	iv: 1 mg or 10 µg/kg po: 2 mg	po: 1 mg b.i.d.
<b>Ondansetron</b>	iv: 8 mg or 0.15 mg/kg po: 24 mg	po: 8 mg b.i.d.
<b>Tropisetron</b>	iv: 5 mg po: 5 mg	po: 5 mg daily
<b>Metoclopramide</b>	Not recommended	20-40 mg b.i.d - q.i.d
<b>Dexamethasone:</b>	iv: 20 mg po: 20 mg	po: 8 mg b.i.d.
<b>In high risk situations</b>		
<b>In moderate risk situations</b>	iv: 10-20 mg po: 10-20 mg	po: 4-8 mg b.i.d.
<b>In low risk situations</b>	iv: 4-20 mg po: 4-20 mg	No preventive measure

The summary given here can hopefully give an overview and give inspiration to seek more information. The evidence-based antiemetic guidelines available remain underutilized, in part due to their complexity. The production of easy-to-use references\* may be more applicable to daily practice, thus supporting practitioners in helping patients suffering from CINV.

1. Roila F, Donati D, Tambari S, et al (2002). Delayed emesis: incidence, pattern, prognostic factors and optimal treatment. Support Care Cancer 10:88-95.
2. Gralla RJ, Osoba D, Kris MG et al (1999). Recommendations for the use of antiemetics: evidence-based, clinical practice guidelines. J Clin Oncol 17:2971-2994.
3. ASHP Commission on Therapeutics (1999). ASHP therapeutic guidelines on the pharmacologic management of nausea and vomiting. Am J Health Syst Pharm 56:729-764
4. Antiemetic Subcommittee of the Multinational Association of Supportive Care in Cancer (MASCC) (1998). Ann Oncol 9:811-819.
5. Antiemesis Practice Guidelines Panel (1997). NCCN Antiemesis practice guidelines (NCCN proceedings). Oncology 11:57-89.
6. The Italian Group for Antiemetic Research (1998). Transferability to clinical practice of the results of controlled clinical trials: The case of antiemetic prophylactic treatment for cancer chemotherapy-induced nausea and vomiting. Ann Oncol 9:759-765.
7. Roila F, De Angelis V, Patoia L, et al (2000). Antiemetic prescriptions in 77 Italian oncological centers after MASCC Consensus Conference. Support Care Cancer 8:241.

This straw poll was carried out at a "Think Tank on Symptom Management of People Living with Cancer", held in Vienna on 24th May 2002, sponsored by Ortho Biotech. Jan Foubert, a fatigue consultant at the Institut Jules Bordet, Belgium and Pearl Moore, the Chief Executive Officer of the US Oncology Nursing Society co-chaired the meeting.

The aims of the think tank were to provide a forum for leading European and North American oncology nurses to discuss and debate ways of improving symptom management in Europe. By exchanging ideas and sharing of best practice it was hoped that the barriers to successful symptom management could be identified and ways of overcoming these barriers explored. The value of EONS and national oncology nursing society involvement in and support of oncology nursing initiatives was also an item for consideration.

Having identified fatigue as a problem that needs to be urgently addressed, discussions focused on identifying the barriers to adequate fatigue management. No one group is responsible for poor fatigue management; nurses, doctors, institutions, patients and patient's families all contribute in some way to the status quo. However important factors which emerged were the lack of awareness of the problem, lack of knowledge and evidence based practice (EBP) and lack of power of nurses to intervene. As one delegate pointed out "Fatigue and pain management really are the domain of nurses and nurses are the people who care but nurses have not had the power or resources to do what needs to be done; they need help".

The meeting focused on how to increase the availability and use of relevant material. Intense discussion drew on the strengths of these projects and identified which strategies worked and which were less successful. It was quite clear that a wealth of information about fatigue already exists and time should not be wasted on devising new material. Better priorities would be to audit and assess current material and find ways of making them useful and culturally sensitive throughout Europe, taking into account the availability of resources and potential barriers to utilising existing educational materials such as language. Delegates were encouraged to define key goals for improving fatigue management in Europe (see box).

Strategies to achieve these goals were identified. Building on the idea of auditing and utilising existing material it was decided that consensus needs to be reached on which of the existing fatigue assessment tools and management guidelines are valid, practical and user-friendly and a plan needs to be developed on how best to promote their use in everyday clinical practice. A fatigue awareness campaign was suggested as a means to publicise fatigue amongst

the healthcare profession and the public and to encourage patients to demand better fatigue management. Nurses learning needs in relation to fatigue and the best educational strategy to meet these needs should be defined. These educational initiatives should have proper accreditation and EONS has an important role to play in this. Since there are a limited number of nurses with sufficient knowledge and skills to run fatigue education programmes, a training the trainers programme would help increase the number of nurses able to disseminate the relevant information.

Cancer nurses should make greater effort to share best practice; many delegates commented that they had not heard about the various fatigue initiatives presented during the meeting.



**Meeting Delegation:** Rolf Bäumer, Germany; Paz Fernandez-Ortega, Spain; Regina Ferrario, Italy; Jan Foubert, Belgium; eileen Furlong, Ireland; Doris Howell, Canada; Nicole Hubert, France; Burkhardt Lebert, Germany; Pearl Moore, U.S.A; Sam Sawyer, U.K.; Giel Vaessen, The Netherlands; Yvonne Wengstrom, Sweden.

Suggestions for facilitating greater communication included establishing an interactive Web-site with a bulletin board or chat room. Also face-to-face meetings provide unique opportunities to share information.

A constatly recurrent theme was that fatigue can only properly be tackled by a multidisciplinary approach involving a spectrum of healthcare professionals. To illustrate this point, Pearl Moore discribed how, in the US, nurses had taken the lead and invited physicians and patient representatives to join them in a 'Fatigue Summit'. This could be a model for a European initiative where, for example, nurses take the lead in developing a 'Fatigue Coalition' which includes representation from physician and patient organisations. This type of face-to-face meeting with participation from healthcare professionals as well as patients provides unique oportunites to share insightful information useful in addressing and managing fatigue.

### Goals for fatigue management

- All cancer patients should have their fatigue assessed and managed appropriately
- Improve cancer nurses awareness of and attitude towards fatigue
- Foster greater communication about cancer-related fatigue amongst healthcare professionals

There were some key principles identified in that the impact of initiatives should be evaluated; each strategy should have some kind of evaluation built in so that changes in nursing practice and patient outcome can be monitored. Also patients' needs should be a constant consideration; patients were viewed as having a pivotal contribution to make to the development and implementation of fatigue initiatives.

This is a formidable list of tasks. It will require a considerable amount of time, energies and resources. According to one delegate it represents "A call to arms for oncology nurses". But with input from committed oncology nurse specialists, support from societies such as EONS and some financial underpinning from the pharmaceutical

sector perhaps we can make an advance in symptom control. As the JCAHO (Joint Commission on Accreditation of Healthcare Organizations) now includes pain as the 4th vital sign, is it not time for European nurses to take the lead and make fatigue the 5th vital sign?

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## EONS News & Updates

### **EONS - Nutricia Joint Study on Analysis of Education Needs in Nutrition**

As previously reported, EONS in collaboration with Nutricia Healthcare recently launched a study to identify topics in the area of nutrition and cancer which are of interest to EONS members. In addition to assessing educational needs, the study will analyse the availability of education/training programmes, sources of financial support and preferred mode and media of delivery for education/training programmes. Nutricia Healthcare are keen to develop a learning resource in nutrition and cancer for qualified nursing staff and will collaborate with EONS to develop a needs driven quality learning programme on this topic.

To this date, 114 EONS members have completed their questionnaire. Two focus group sessions were conducted at the 3rd EONS Spring Convention to generate more in-depth information through discussion on topics related to education, nutrition and access to and use of information technology.

Preliminary results indicate that 93% of the respondents expressed an interest in learning more about nutrition and cancer and 96% of these indicated that having a greater understanding of nutrition would prove helpful in their work. It is anticipated that recommendations generated from the study in respect to development and delivery of education programmes will assist EONS to better meet the educational needs of its diverse membership. The study managers express their gratitude to members who took the time to complete the questionnaire and/or participate in the focus group discussions. A detailed report of the findings will be published in a future issue of EON.

### **Update on Leonardo da Vinci Project**

The Federation of European Cancer Societies (FECS) was mandated by the European Commission to perform a 3-year study on continuing medical education in the field of oncology in Europe. The project, which involves 12 partners including EONS, aims to raise the standards of educational programmes on oncology in Europe and includes two main components: 1) the accreditation of CME events and its mutual recognition between EU member States; 2) the development of new educational programmes and tools. During the first phase of the study, information was collected on CME events conducted between June 1999 and June 2001.

More than 150 continuing education programme organisers were contacted and provided information which led to the creation of a database consisting of all identified events categorised according to title/subject, date, location. In a second step of the study, CME providers were contacted to solicit their input on topics and target audiences that are inadequately or insufficiently addressed by European CME programmes. It is anticipated that this data will provide insight on CME needs in Europe. A parallel study surveyed

health care professionals and allied health care professionals asking their views on CME, CME credit, education needs and preferences. More than 500 responses are currently being analysed.

Regarding the accreditation procedure itself, FECS, in close collaboration with its Accreditation Council (ACOE), has strengthened its relationship with the accreditation body of the European Union of Medical Specialists (UEMS) in order to streamline the current process of mutual recognition of Euro credits throughout Europe.

During the remaining time of the project, October 2002-November 2003, recommendations concerning CME needs in oncology, development of various CME tools, assessment of on-going CME activities as well as the functioning of mutual recognition of CME credits across Europe and between Europe and the USA will be made drawn on the results of the analysis of the questionnaires. EONS, through its Accreditation Council, have provided accreditation services for cancer nursing education programmes for the past 3 years. To date, 10 programmes have received EONS accreditation.

### **Courses receive EONS Accreditation**

The Hellenic Oncology Nurses Society received accreditation for the course Principles and Nursing Implications in Patients receiving Chemotherapy which was held in June 2002. The nurse participants at this course enhanced their knowledge and skills in the scientific basis of chemotherapy, principles of safe handling of anti-neoplastic agents and care of the patient receiving chemotherapy.

The course, 6th International Seminar: Advanced Oncology Nursing (6. Internationales Seminar: Onkologische Krankenpflege Fortgeschrittene Praxis) organised and sponsored by the German Division of the European School of Oncology (ESO) has been awarded EONS accreditation. The two-day course, conducted in German, took place in August in St. Gallen, Switzerland. A wide-range of experts in oncology provided the participants with state-of-the-art information on various issues in oncology practice including genetics, melanoma and nursing research.

### **EONS Member Benefits**

As our readers are well aware, cancer nursing is challenging. Membership in EONS offers nurses outstanding opportunities to update and expand cancer care knowledge and to exchange information with colleagues across Europe. The professional and personal benefits of being an active member of this vibrant and growing organisation will help you to better meet your every challenge. The mission of EONS is to improve the care of individuals with cancer by supporting and enhancing cancer nursing throughout Europe. Membership applications are available from the Secretariat. On-line membership application is possible via the EONS web site.

# Nausea Prevention Around the Clock<sup>1</sup>



**Kytril® (granisetron) Brief Prescribing Information. Indications** Prevention or treatment of nausea and vomiting induced by cytostatic therapy and prevention and treatment of postoperative nausea and vomiting. **Dosage and Administration** Kytril ampoules are for intravenous administration only. For details of administration including suitable infusion fluids, please refer to the full prescribing information. **Cytostatic-induced Nausea and Vomiting Intravenous Adults including elderly:** 3mg given either in 15mL infusion fluid as an intravenous bolus over not less than 30 seconds or diluted in 20 to 50mL infusion fluid and administered over 5 minutes. Prevention: In clinical trials, most patients have required only a single dose of Kytril over 24 hours. Up to two additional doses of 3mg may be given within a 24-hour period. Patients have received daily administration for up to 5 consecutive days in one course of therapy. Kytril should be given prior to the start of cytostatic therapy. Treatment: Dosage as for prevention, with additional doses at least 10 minutes apart. Maximum daily dosage: Do not exceed three doses (9mg) within 24 hours. Efficacy may be enhanced by the addition of dexamethasone. **Children:** Prevention: 40mcg/kg body weight from the ampoule (up to 3mg) diluted in 10–30mL infusion fluid administered over 5 minutes prior to the start of cytostatic therapy. Treatment: Dosage as for prevention. Within a 24-hour period one additional dose of 40mcg/kg (up to 3mg) may be administered at least 10 minutes apart from the initial infusion. **Oral Tablet formulation only indicated for prevention of cytostatic induced nausea and vomiting. Adults including elderly:** Prevention: One tablet (1mg) b.i.d. or one tablet (2mg) q.o.d. during cytostatic therapy. First dose given within 1 hour before start of cytostatic therapy. Efficacy may be enhanced by the addition of dexamethasone. **Children:** There is insufficient evidence to base appropriate dosages for children under 12 years old. Paediatric liquid is only licensed for prevention of cytostatic induced nausea and vomiting. **Children:** Single dose of 20mcg/kg bodyweight (up to 1mg) twice daily for up to 5 days during cytostatic therapy. First dose given within 1 hour before start of cytostatic therapy. For details of administration please refer to the full prescribing information. **Post-operative Nausea and Vomiting Adults including elderly:** Prevention: 1mg Kytril diluted to 5mL with normal saline and administered as a slow intravenous injection over 30 seconds. Complete administration prior to induction of anaesthesia. Treatment: Dosage as for prevention. Maximum daily dosage: Two doses (2mg). **Children:** No experience, therefore not recommended in this age group. **Contra-Indications** Hypersensitivity to granisetron, or related substances, or any of the other constituents. **Precautions** Monitor patients with signs of subacute intestinal obstruction. **Pregnancy and Lactation** No experience in human pregnancy: do not give to pregnant women unless compelling clinical reasons. Breast feeding should be stopped during therapy. **Side-effects** Generally well tolerated. Mild to moderate headache or constipation most frequent. Rarely hypersensitivity reactions (occasionally severe), other allergic reactions including minor skin rashes. In clinical trials transient increases in hepatic transaminases, generally within the normal range, have been seen. **Overdosage** No specific antidote. Treat symptomatically. **Legal Category** POM. **Presentations** Kytril Tablets 1mg, each containing 1mg granisetron. Kytril Tablets 2mg, each containing 2mg granisetron. Kytril Infusion, each ampoule containing 3mg granisetron in 3mL isotonic saline. Kytril Ampoules, each containing 1mg granisetron in 1mL isotonic saline. Kytril Paediatric Liquid, each bottle containing 30mL of 200mcg granisetron in 1mL solution. **Marketing Authorisation Numbers** Kytril Tablets 1mg PL00031/0591, Kytril Tablets 2mg PL 00031/0592. Kytril Infusion PL 00031/0594, Kytril Ampoules PL 00031/0595. Kytril Paediatric Liquid PL 00031/0593. Kytril is a registered trademark. **Date of Preparation** January 2002. Please contact your local Roche company for the full prescribing information. **Reference** 1. Perez EA, et al. Cancer J Sci Am 1998;4:52–8.



**KYTRIL®**  
granisetron HCl  
Tablets and Injection

Less complicated 24-hour prevention  
of nausea and vomiting