Palliative Care

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for Medical Education and Research

Mrs S, 36 years old

- Mastectomy + axillary node dissection for poorly differentiated breast cancer 2 years ago (T3N1M1- bone), adjuvant chemotherapy (CMF).

  Nine months later, she starts complaining of increasing pain, moderate to severe in her back (lumbar ares) as well as shortness of breath, interfering with daily activities and sleep. She is depressed and anxious.

- Takes acetaminophen 1-2 tablets BTP, up to 4 times/d, little relief

- Works as a secretary. Her husband is anxious, and relationships have been difficult after her surgery. 2 children; 10 and 12.

- How would you treat her?

Lecture plan

- Definition of hospice/palliative care, main concepts
- Increasing needs and insufficient access
- Pain management (WHO analgesic ladder) as an example of symptom management
- Key importance of opioid availability, together with governmental policy and education/information
- Integration of palliative care in cancer care
- Sources of information, literature references

Palliative care: WHO definition

Definition of Hospice /Palliative care

- Hospice and Palliative Care is the active care of patients with advanced, progressive and incurable disease.

  Depending on the country, the meaning of Hospice varies from a philosophy of care to the type of setting where the care is provided.

Definition of palliative care (WHO)

- Palliative Care is an approach that improves the quality of life of patients and their families facing the problem associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual.

Definition of palliative care (WHO)

- Provides relief from pain and other distressing symptoms;
- Affirms life and regards dying as a normal process;
- Intends neither hasten nor postpone death;
- Integrates the psychological and spiritual aspects of patient care;

Definition of palliative care (WHO)

- Offers a support system to help patients live as actively as possible until death;
- Offers a support system to help the family cope during the patient's illness and in their own bereavement;
- Uses a team approach to address the needs of patients and their families, including bereavement counseling, if indicated;

Definition of palliative care (WHO)

- Will enhance quality of life, and may also positively influence the course of illness;

- Is applicable early in the course of illness, in conjunction with other therapies that are intended to prolong life, such as chemotherapy or radiation therapy, and includes those investigations needed to better understand and manage distressing clinical complications.

National Cancer Control Programmes:
Policies and Managerial Guidelines, 2nd Ed. Geneva: WHO, 2002

Increasing palliative care needs

- **Global cancer rates:**
  May increase by 50%; from 10 to 15 Mo new cases worldwide between 2000 and 2020:

  - 1/3 could be prevented,
  - 1/3 cured
  - 1/3 treated with quality inexpensive PC

- **AIDS projections**, 53 most affected countries:
  Excess mortality due to HIV might increase from 53 to 178 Mo between the current decade and 2000 mid-century

Palliative care in the developing world. IAHPC 2004

Increasing palliative care needs

- **Ageing population:**

  By 2025: estimated 135 Mo >79 yrs old

  Of those, 80 Mo in the developing world

  Increase in chronic degenerative disorders, disabilities, dementia, malignancies needing palliative care

Insufficient access to palliative care

- 50% of world's new cancer cases and deaths occur in developing nations, already 80% already incurable at the time of diagnosis
- Adequate palliative care is still unavailable to 80-90% patients in those countries

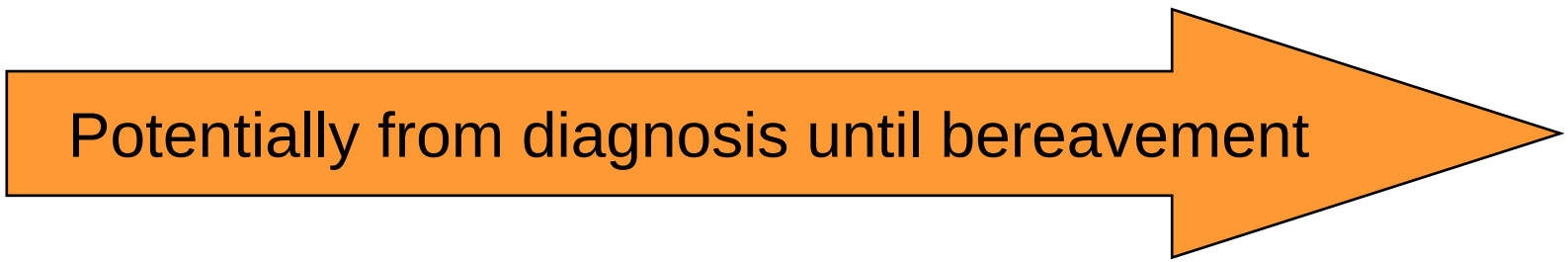
Access to palliative care

- Inequitable and insufficient in spite of existing knowledge

- The development of palliative care through effective and low cost approaches represents a priority in order to respond to the urgent needs of the sick and improve their quality of life.

Palliative care: when?

- Palliative care spans the period from the diagnosis of advanced disease until the end of bereavement; this may vary from years to weeks or (rarely) days. It is not synonymous with terminal care, but encompasses it.



COUNCIL OF EUROPE Recommendation Rec(2003)24 of the Committee of Ministers to member states on the organisation of palliative care and explanatory memorandum. www.coe.int

Traditional view of hospice / palliative care:

Symptomatic and supportive PC is withheld until all avenues of treatment for underlying disease are exhausted and the treatment of other medical problems considered inappropriate

Treatment of the underlying disease	**Palliative Care**
Active treatment of medical problems	

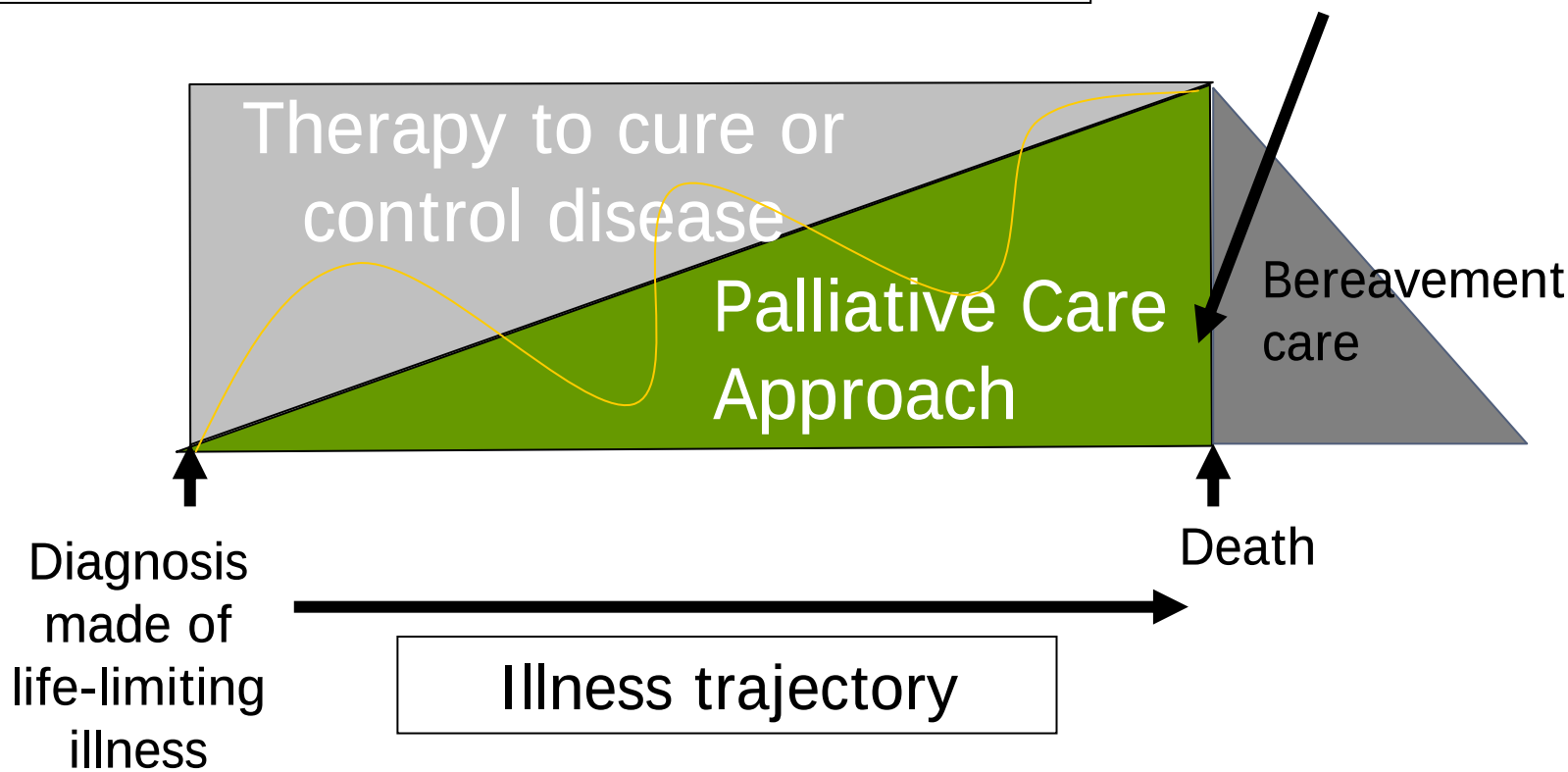
Diagnosis of symptomatic incurable illness **Death**

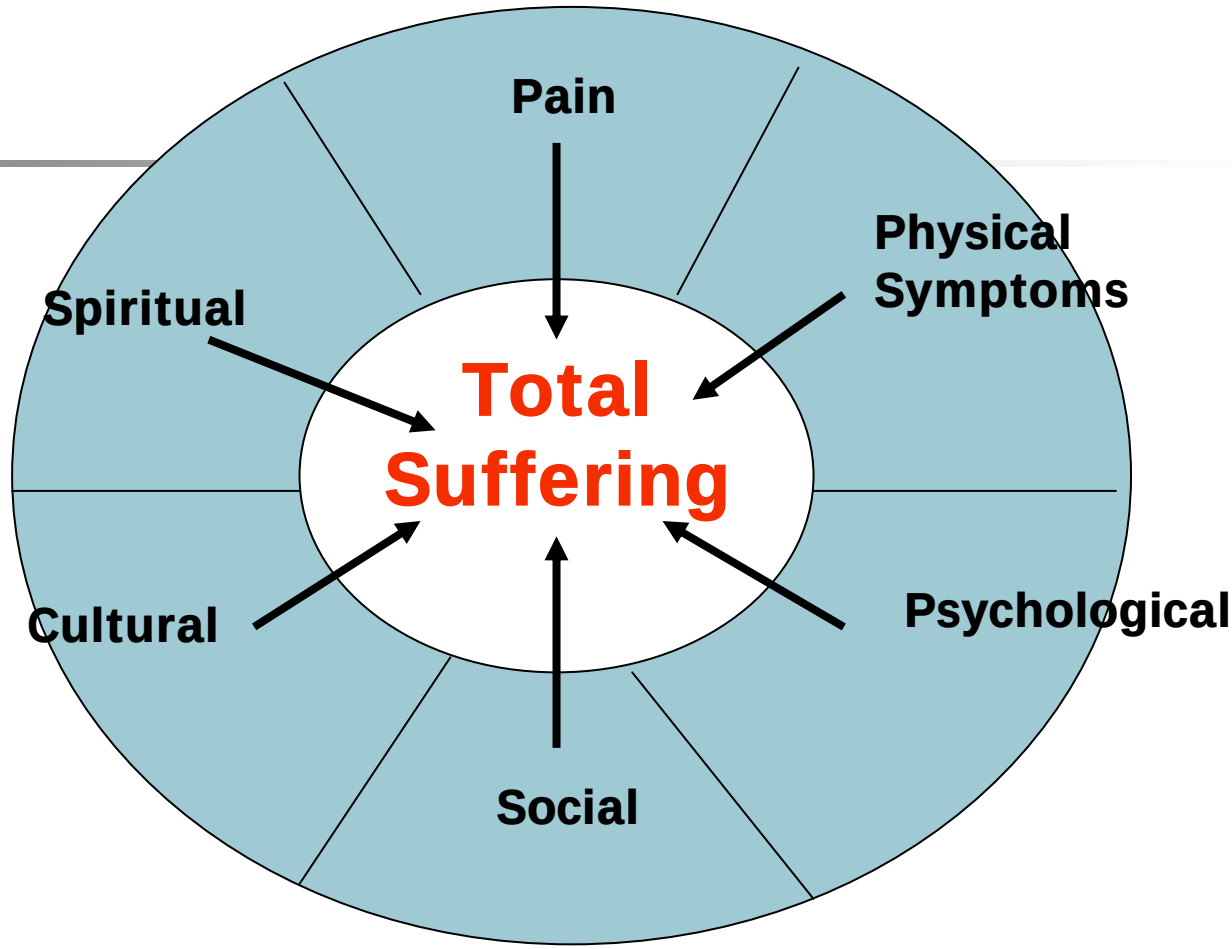
Palliative care in the developing world. IAHPC 2004

Hospice Palliative Care
CHPCA Model

Illness trajectory
- More predictable in cancer and ALS
- Less predictable in AIDS, lung & heart diseases

End of Life Care
Terminal phase





Palliative care in the developing world. IAHPC 2004

Multidisciplinary care = (total care)

treatment of pain
& other physical symptoms
& psychological problems
& social difficulties
& cultural factors
& spiritual concerns

Palliative care in the developing world. IAHPC 2004

Symptom management

Symptom prevalence in advanced cancer patients

- **275 consecutive advanced cancer patients**

Symptom	Prevalence	95% confidence interval
Asthenia	90	81-100
Anorexia	85	78-92
Pain	76	62-85
Nausea	68	61-75
Constipation	65	40-80
Sedation-confusion	60	40-75
Dyspnea	12	8-16

Bruera. Oxford Textbook of Pall Med 1998

Definition of pain

«Pain is an unpleasant sensory and emotional experience associated with actual and potential tissue damage or described in terms of such damage ».

Pain is always subjective.

IASP (International Association for the Study of Pain)

Pain Assessment

- Clinicians underestimate pain!
- Ask the patient systematically, listen to him/her
- A great number of patients experience several pain syndromes at the same time
- Remember that pain is a multidimensional experience

Goals of pain assessment

- Characterize the pains
- Identify their mechanisms and causes
- Assess their impact on the patient’s functioning and QOL
- Identify any interactions between pain and other symptoms
- Develop individualized strategies

Assessment of pain intensity

- Visual analog scale:

No pain _____ Worst possible pain

- Numerical scale:

No pain 0 1 2 3 4 5 6 7 8 9 10 Worst possible pain

- Categorical scale:

No pain | Week pain | Moderate pain | Severe pain | Very severe pain | Extreme pain

Types of pain

Nociceptive pain

Activation of nociceptors in the different tissues/organs

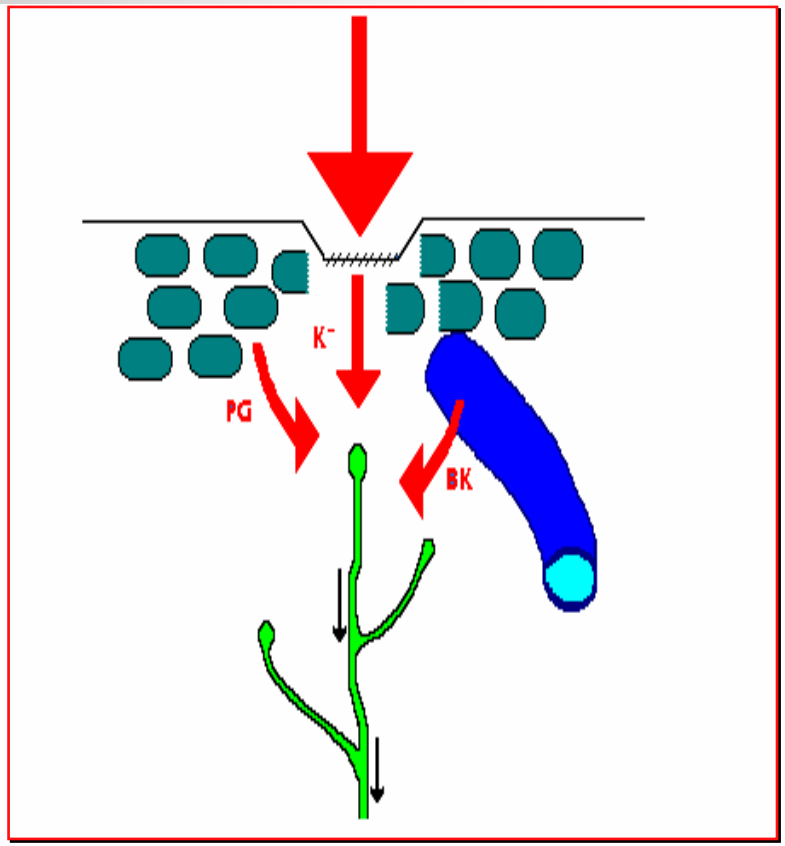
by tissue damage

Somatic pain

Well localised

Visceral pain

Poorly localised, deep, dull, cramping, referred



Modified from Mazzocato, Sylvana 02

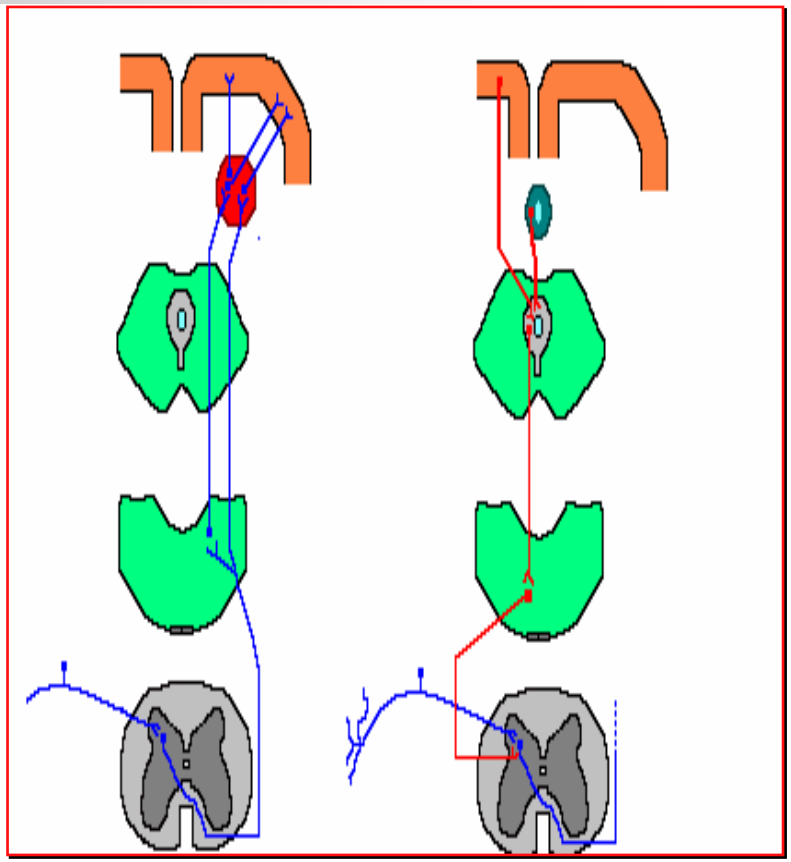
Types of pain

Neuropathic pain

Peripheral or central alteration of nerve conduction

Dysesthesias: burning sensation, numbness, tingling, as well as sharp and shooting, paroxystic exacerbations

Associated with a sensory deficit, hyperesthesia, allodynia; in the region innervated by the affected nerve structure (dermatoma, radicular distribution, etc.)



Modified from Mazzocato, Sylvana 02

Basic Principles of Cancer Pain Management

- By the cause of the pain(s)
- By the clock
- By the ladder
- By the mouth
- Always precribe mediation for breakthrough pain
- Adapt treatment to the individual patient situation
- Prescribe adjuvant therapies as needed
- Prevent side effects
- Regular reassessments

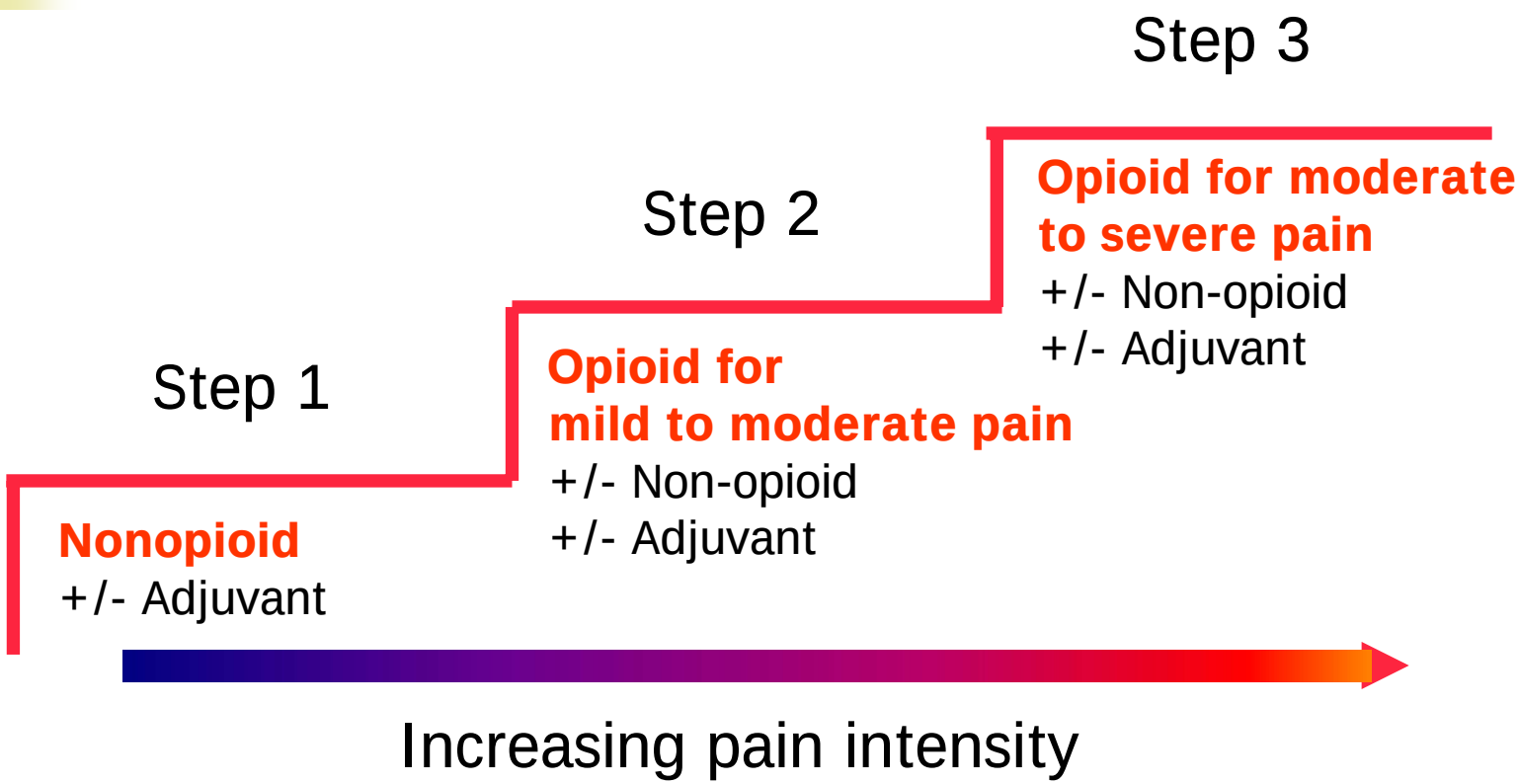
WHO recommendations

By the clock

By the mouth

By the ladder

WHO analgesic ladder



Do not use

- meperidine
- butorphanol, pentacozine, propoxyphene

Step 2: Codein

- Biotransformation into morphine by Cyt. P450.

  Iso-enzyme absent in 7-10% Caucasians. In those cases, codein will probably be poorly effective

  Dose: 30-60 mg/4h

Step 2: tramadol

- Weak Opioid + noradrenergic effect (noradrenaline and serotonin)
- Kidney elimination
- Doses:
  initially: 50 mg/6-8h and 15-20 mg breakthrough
  (analgesic effect: 3-7h with chronic administration)
  maximal studied dose: 400 mg/d. In the elderly > 75 yrs: 300 mg
- Frequent side effects:
  nausea/vomiting, dizziness, sweating, dry mouth, constipation
  risk of convulsions

Step 2: tramadol

- Potentially dangerous drug interactions, particularly with antidepressants: SSRIs, tricyclics, IMAO:

  serotoninergic syndrome

Schaad, Med et Hyg 2001;2346

Serotoninergic syndrome

Gastro-intestinal	Cramps Diarrhea
Neurological	Headaches Dysarthria Incoordination Myoclonia
Cardiovascular	Tachycardia Hypo/hypertension Cardiovascular collapsus
Psychiatric	Confusion Dysorientation
Other	Sweats Hyperthermia Hyperreflexia

Opioid Myths / Fears

- “It means the end is near”
- “Opioids cause addiction”
- “Opioids will lose their effectiveness over time, leaving nothing to treat severe pain ‘at the end’
- “Opioids will make me a zombie or take away my mental capacity”
- “They will stop my breathing”
- “They will shorten my life”

Opioids: feared effects

- **Addiction:**

  Almost *never* in a well managed pain treatment

- **Physical dependance:**

  Means withdrawal when medication abruptly stopped of in the case of administration of an antagonist

- **Tolerance:**

  Need to increase doses in order to maintain the same effect
  Very rarely a problem in clinical practice

Step 3: initiation of treatment

- Morphine is the narcotic of first choice

- Start with a short acting substance; oral morphine:

  ☞ Give regular 4-hourly dose
  + rescue dose for breakthrough pain:
  10-16% of total daily dose)

Dose titration

- Increase by 20-30%
- Adjust breakthrough doses (4 hourly dose)
- Reassess if need for > 3 breakthroughs/day

The right dose of opioid is the one that achieves the best analgesia with the fewest side effects

Long acting opioids

- For stable pain
- Breakthrough doses (in short acting form)
- Reassess at regular intervals and reajust

Another interesting opioid: methadone!

- Very cheep
- Possibly more effective in neuropathic pain
- To be used by experienced professionals only: particular pharmacological characteristics (long half-life: 1 to > 60 hrs, important interindividual variability, pharmacological interactions)

Some other opioids

- **Fentanyl: Ex Transdermal Duragesic:**

  Pure μ agonist, 100x more potent than morphine
  Only for stable pain, previous titration with short acting opioid
  Mainly liver metabolism
  Very expensive!

- **Buprenorphine:**

  Partial agonist, ceiling effect
  Do not associate it with other opioids
  Liver metabolism, no accumulation in renal failure

Opioid side effects

Type of effect	Characteristics	Treatment
Constipation	No tolerance	Systematic prevention and treatment Stimulant and osmotic laxatives
Nausea-vomiting	Approx. 30% patients 1st week	Metoclopramide or haloperidol
Drowsiness	Often mild during 1st days of treatment	Assess. If major, decrease dose. Rule out aggravating factors
Neurotoxicity	Particularly if renal failure. Myoclonus, delirium, hyperalgesie/allodynia, hallucinations	Hydrate. If possible change opioid. Rule out aggravating factors. Treat symptoms (ex haloperidol)

Adjuvant analgesics

Type of drugs	Indications	Precautions
NSAIDS	Bone pain, inflammatory process	Beware side effects, eg renal failure and opioid toxicity
Corticosteroids: Ex: dexamethasone	Intracranial hypertension, epidural spinal cord compression, distension of liver capsule	Beware side effects, especially long term. Decrease to minimal effective dose
Spasmolytics (Buscopan)	Intestinal or urinary muscle spams	
Anticonvulsants Ex: Gabapentin	Neuropathic pain	Beware side effects
Antidepressants Ex: amitryptiline	Neuropathic pain	Beware side effects and interactions
Bisphosphonates Ex: Pamidronate, Zoledronate, Clodronate	Metastatic bone pain and decreased « bone events »	Flue-like symptoms, beware renal failure

Efficacy of cancer pain management

- WHO step ladder is said to be able to successfully manage pain in approximately 80-90% of patients

- Despite available knowledge and drugs, studies show that 38-74% cancer patients suffer from unrelieved pain

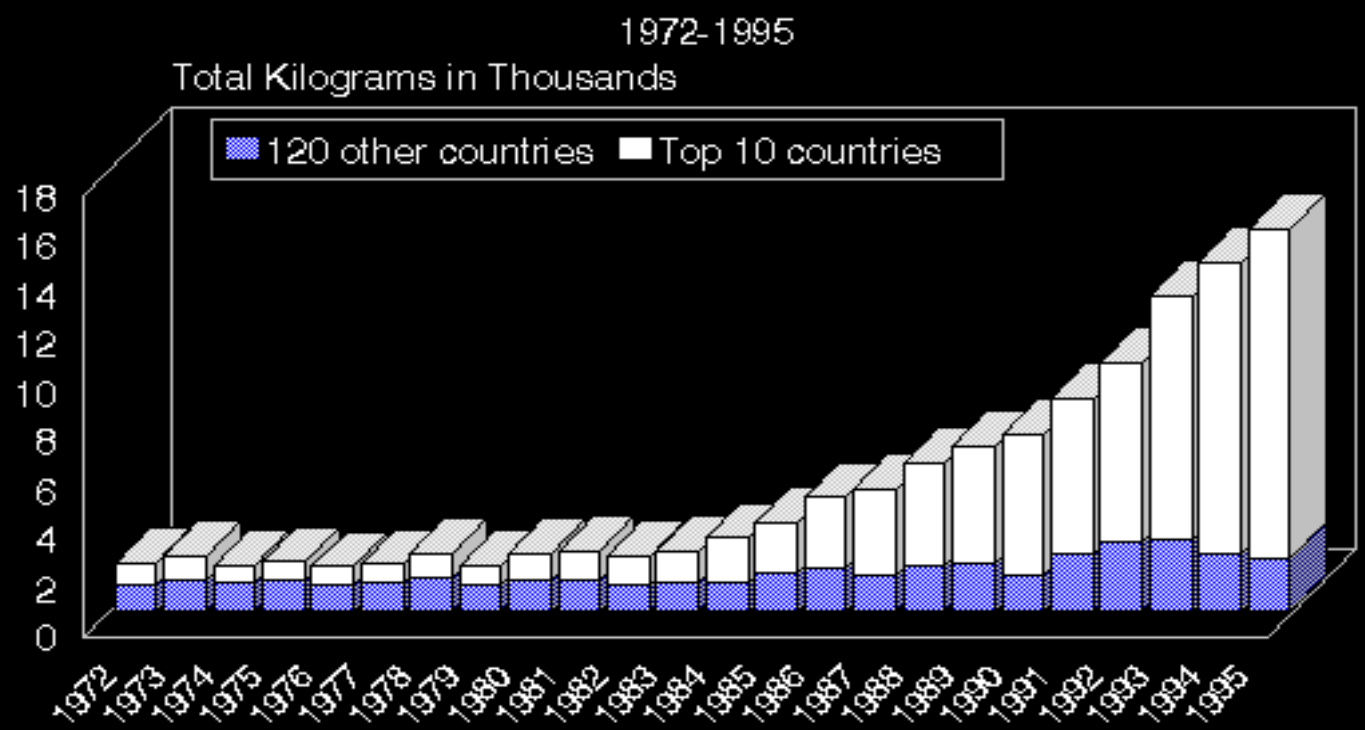
Davis MP, Walsh D. Am J Hospice and Palliative Care 2004

Barriers to pain management

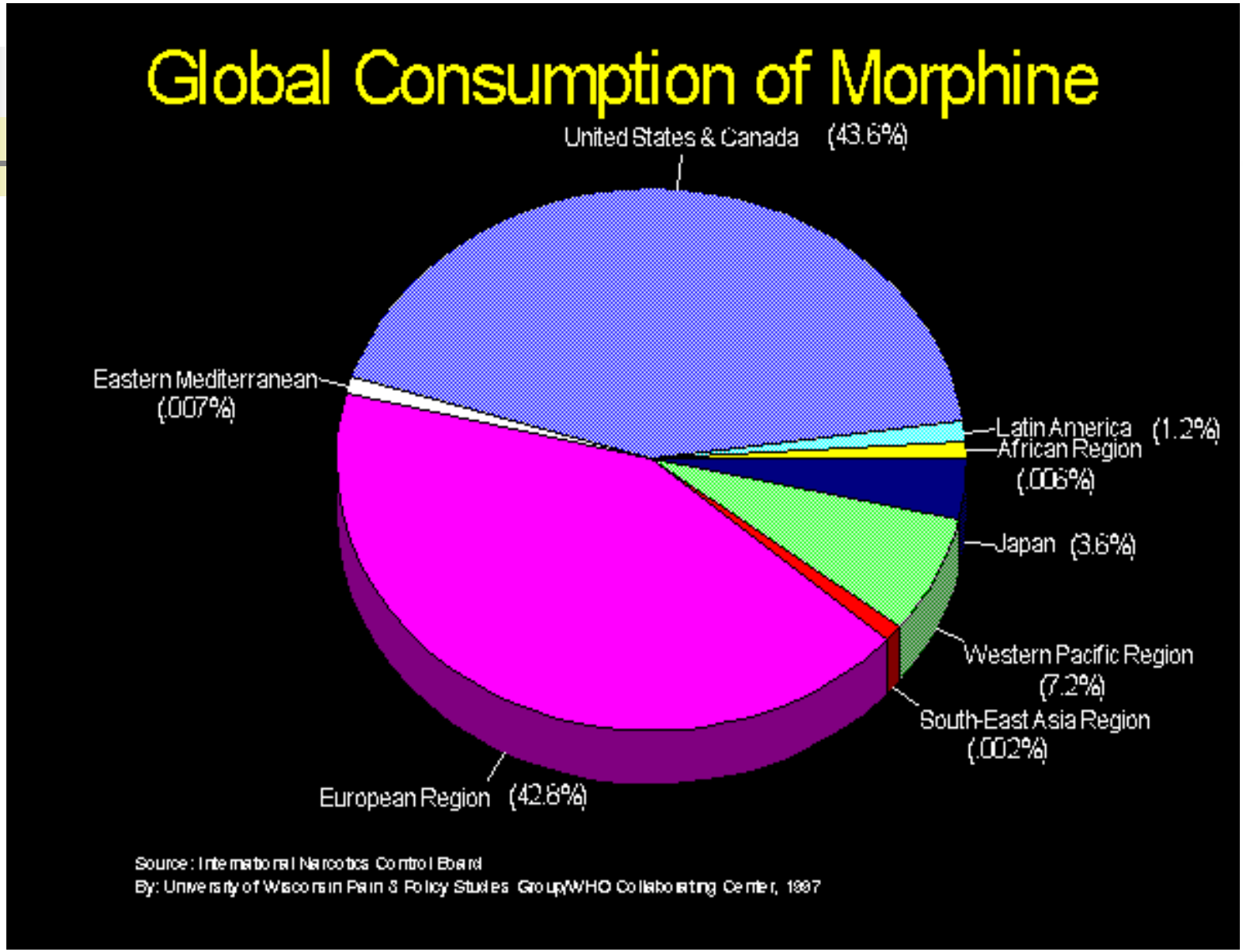
- Inadequate assessment of pain
- Inadequate knowledge about pain an its treatment
- Concerns about possible side effects of pain medications
- Patients' and physicians' attitudes, fears and misconceptions about pain and opioids
- Misinformation about opioid tolerance and dependance issues
- Poorly accessible or unavailable pain management services
- Improper and misguided regulation by governing agencies

Palliative care in the developing world. IAHPC 2004

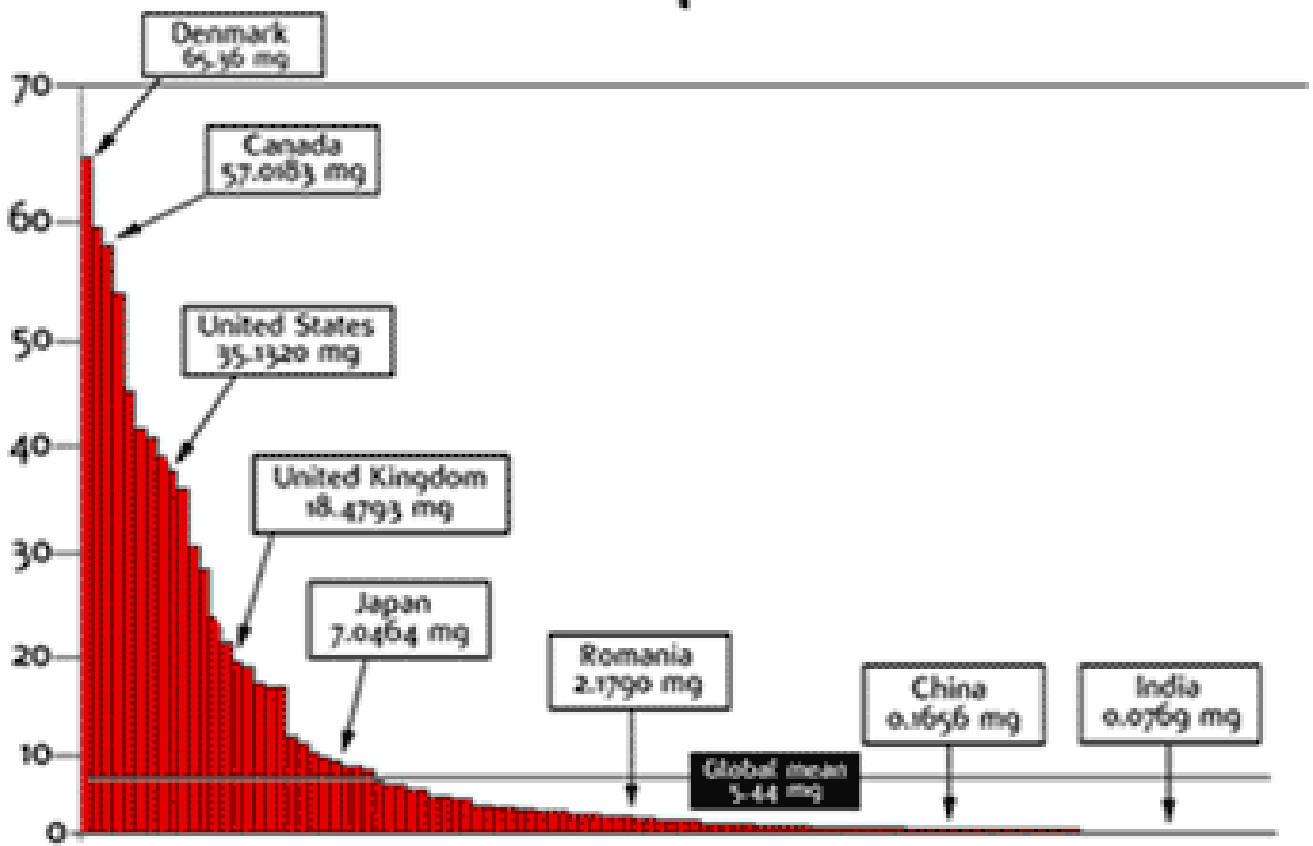
Global Consumption of Morphine



Source: International Narcotics Control Board
By: University of Wisconsin Pain & Policy Studies Group/WHO Collaborating Center, 1997


Global Consumption of Morphine
United States & Canada (43.6%)
Eastern Mediterranean (.007%)
Latin America (1.2%)
African Region (.006%)
Japan (3.6%)
Western Pacific Region (7.2%)
South-East Asia Region (.002%)
European Region (42.8%)
Source: International Narcotics Control Board
By: University of Wisconsin Pain & Policy Studies Group/WHO Collaborating Center, 1997

Per Capita Global Consumption of Morphine 2001



Source: International Narcotics Control Board

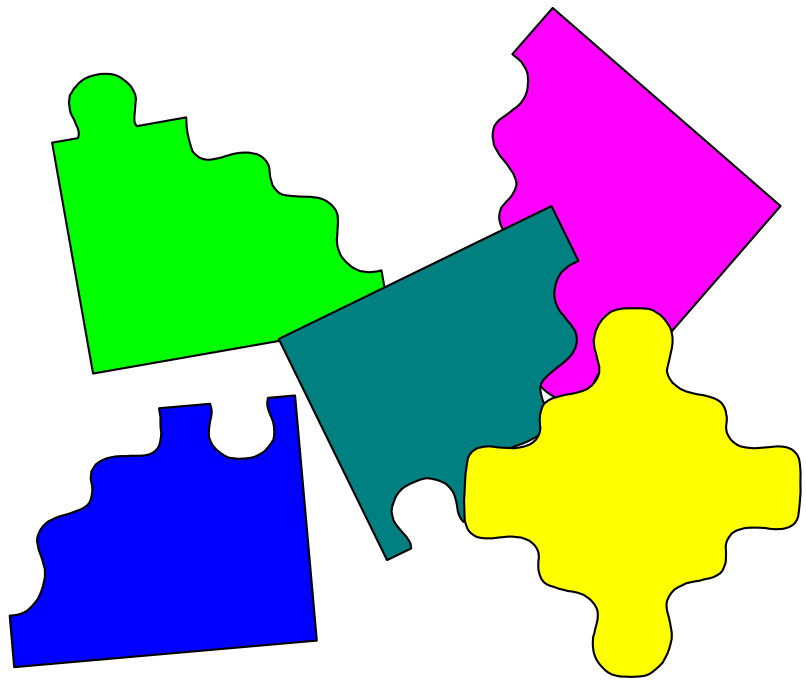
Guiding principles for service planning

Care for incurable patients: levels of care needed

1. **Palliative approach**

2. **Specialist palliative interventions**

3. **Specialist palliative care teams**



Levels of care needed

1. Palliative approach

Possible by all healthcare professionals, provided appropriate training, drug availability and recognition

* Central role of GP and nurse providing home visits

* Importance of care provided by family and friends, who need to be empowered as effective caregivers

Levels of care needed

2. Specialist palliative interventions

Provided by different specialists:

* Oncologists. Ex: chemo-hormone therapy for sensitive tumors
* Radio-oncologists. Ex: irradiation of bone mets, epidural spinal cord compression
* Surgeons. Ex stabilisation of an impending fracture
* Anesthesiologists. Ex: nerve blocks, coeliac plexus block

Levels of care needed

3. Specialist palliative care teams

- **Specially trained teams in:**

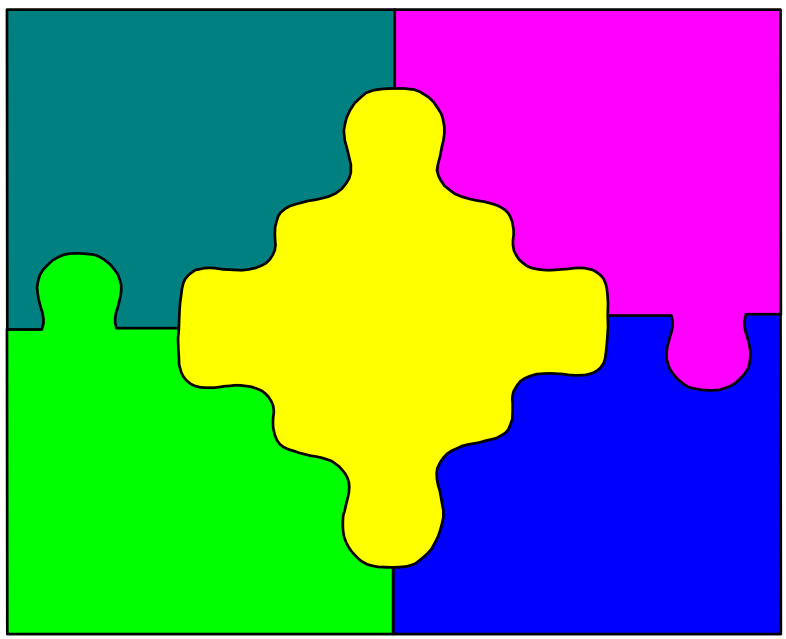
  * Inpatient hospices

  * Consult hospice or palliative care home care teams

  * Hospital palliative care consult teams

  Complex patient and family situations, support for the healthcare professionals, teaching and research

Levels of care needed



Each of those levels must learn to work in close communication and coordination with eachother

Foundation measures:

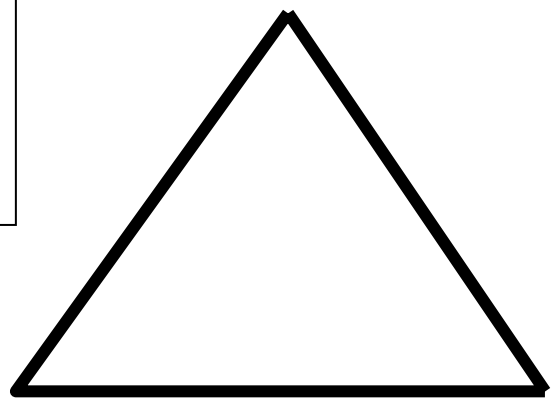
little cost, big effect (Stjernswärd J. JPSM 2002;24(2)259)

Education

-Public, professionals
- Undergraduate education for doctors and nurses
- Postgraduate training
- Advocacy (policy makers, administrators, drug regulators)

Drug availability

- Changes in legislation to improve availability especially of cost effective opioids such as morphine sulfate tablets
- Prescribing made easier and distribution, dispensing and administration improved

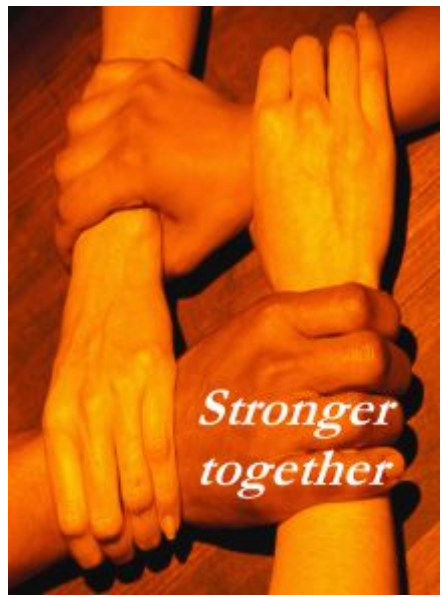


Governmental policy

- National policy emphasizing the need to alleviate unnecessary pain and suffering of the chronically and terminally ill
- Governmental policy integrating PC into the healthcare system
- Separate systems of care are neither necessary nor desirable

Importance of networks and partnerships

- Share knowledge and experience
- Look for PC professionals and services in your area, as well as regional/national/international associations and resources
- Aim at providing quality care and continuity of care
- Through creative and systematic efforts, collect informations and evaluate the most promising approaches in your area



Palliative care: useful international organisations

- International Association for Hospice and Palliative Care www.hospicecare.com
- WHO Programme on Cancer Control
- EAPC (European Association for Palliative Care) www.eapcnet.org and www.eapcare.org
- Hospice Information Service St Christopher's Hospice London www.hospiceinformation.co.uk

Palliative care: some references

- Oxford Textbook of Palliative Medicine 2005
- Palliative Care in the developing world: principles and practice. IAHPC Press 2004
- WHO guidelines on Cancer pain, opioid availability, symptom control and palliative care
- Ripamonti et al. Clinical-practice recommendations for the management of bowel obstruction in patients with end-stage cancer. Support Care Cancer 2001;9:223-233