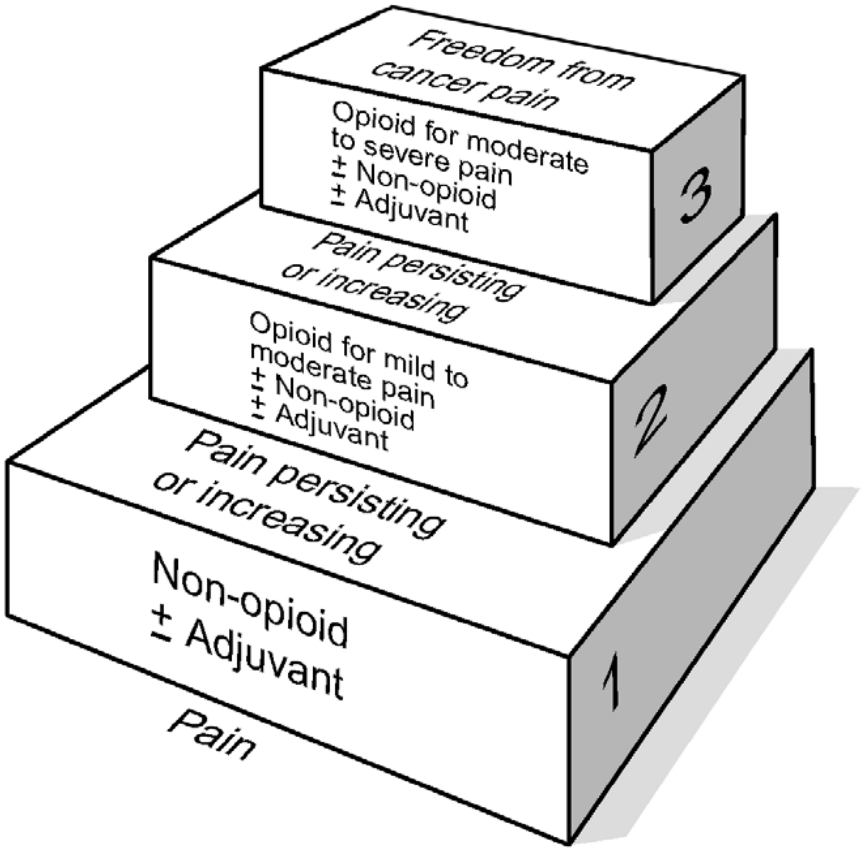
Appendix 1 : The WHO analgesic ladder



The principles of the WHO cancer relief programme are that:

- detailed multidimensional assessment of severity of pain is essential
- the patient is started on the appropriate level of the ladder for the degree of pain, based upon the results of the assessment
- analgesia is given regularly dependent upon the pharmacokinetics of the chosen drug and its formulation
- medication for breakthrough pain must be prescribed
- laxatives are required and should be prescribed for the vast majority of patients on opioid analgesics
- adjuvant drugs must be considered and the class of drug chosen according to the type of pain
- paracetamol and/or non-steroidal anti-inflammatory drugs (NSAIDs) should be used at all steps of the ladder unless contraindicated
- the oral route of drug delivery is strongly advocated in the chronic pain usually encountered by the person with cancer.
- morphine is the strong opioid of choice.

WHO Analgesic Ladder Step	Analgesic of choice
1 (mild pain)	Paracetamol and NSAIDs
2 (mild – moderate pain)	Paracetamol and NSAIDs plus weak opioid e.g. codeine or dihydrocodeine
3 (severe pain)	paracetamol and NSAIDs plus strong opioids (eg morphine, alfentanil, diamorphine, fentanyl, or oxycodone)

APPENDIX 2. Non-opioid drugs

DRUG	INDICATION/ADVERSE EFFECTS	NOTES
Paracetamol	Can be prescribed at all stages WHO analgesic ladder	See below*
NSAIDs	Upper GI problems most common, adverse effects especially in Patients >65 Previous peptic ulcers Smokers Higher NSAIDs dose Certain types of NSAIDs e.g. ketoprofen Those at high risk should be prescribed either standard dose PPI (none is more effective than another) or misoprostol 800mcg/day, or double dose histamine receptor antagonist e.g. ranitidine 300mg BD. Ibuprofen is associated with lowest GI side effects, compared to diclofenac and naproxen	Cardiovascular risk: Diclofenac 150mg/day or ibuprofen 2400mg/day have similar thrombotic risk profile as COX-2 Naproxen 100mg/day and ibuprofen 1200mg/day not associated with excess risk MI
COX-2	Fewer GI side effects than NSAIDs, but they can occur. No COX-2 is better or worse than traditional NSAIDs along with PPI	Cardiovascular risk : COX-2 are contra-indicated in established IHD, PVD or CVA.
Bisphosphonates	Useful in treatment for pain associated with bony metastasis. Care regarding renal toxicity. Hypocalcaemia when bisphosphonates administered IV is known problem	Osteonecrosis of jaw occurs in 6-10% cancer patients being treated with bisphosphonates. Risk factors include high dose treatment and history of dental trauma/surgery /infection
Antidepressants/ Anticonvulsants	Tricyclic antidepressants are effective in treatment of neuropathic pain, and duloxetine is considered by specialists when other treatments fail. Venlafaxine can be effective in doses 75-225mg daily. Carbamazepine + gabapentin are also useful for neuropathic pain	
Other agents	No evidence in SIGN to support use of topical opioids or lidocaine plaster. Capsiacin (derived from chillis) can be useful for neuropathic or muscular pain but local skin irritation is common. Steroids useful eg liver capsule pain	

*[It is well known that paracetamol is a non-opioid analgesic that is widely prescribed in steps 1-3 of the WHO ladder. However, there have been recent case reports in the BMJ that highlighted hepatotoxicity from prescribing 4 grams of paracetamol per day.

One of the risk factors is low body weight, so weigh all patients (if possible) who are likely to weigh less than 50kg based on appearance, or patient history. If the patient's weight is less than 50kg reduce the paracetamol dose to 500mg QDS (max 2g daily).

Consider reducing the paracetamol dose for all other patients who have other risk factors for paracetamol-induced hepatotoxicity which include:

- renal/hepatic impairment
- glutathione deficiency
- chronic malnourishment
- chronic alcoholism

If a dose reduction is considered necessary prescribe 500mg QDS (regular or PRN) and remember to disable computer-generated dosages suggesting 1g QDS.
Monitor liver function tests after 2-3 days of initiation of paracetamol 4g daily].

APPENDIX 3. Opioid drugs

DRUG	INDICATION and BIOAVAILABILITY	NOTES
Morphine	The first line opioid for oral use in severe cancer pain. Tolerated well by the majority of patients. As patients will use it chronically, the oral route is preferable to parenteral or rectal administration. Systemic bioavailability of oral morphine is poor, with wide variation between individuals, but with individual dose titration a satisfactory level of analgesia can usually be achieved.	Familiarity with the use of morphine by most practitioners is an additional consideration for patient safety. The range of morphine: modified and immediate release tablets and capsules, and immediate release liquids available in the UK is extensive, making it possible to find a suitable oral formulation for most patients. See Box 2
Diamorphine	Ten times more soluble in water than morphine, and is easier to administer at higher doses.	For subcutaneous use, diamorphine is the preferred opioid for the control of severe pain.
Oxycodone	Oxycodone is available as immediate release capsules, modified release tablets and oral liquids. It has more predictable bioavailability than morphine (60-87% for oxycodone vs 15-65% for morphine).	The modified release tablets have a biphasic pharmacokinetic release profile showing two peaks after oral administration. This allows onset of analgesia within an hour of ingestion and an analgesic duration of 12 hours.
Transdermal fentanyl	For those with stabilised severe pain who express a preference for a patch formulation or those with swallowing difficulties or intractable nausea and vomiting, fentanyl transdermal patches may be appropriate provided the pain is stable.	As patches vary considerably in their appearance, and to avoid the risk of patient confusion, patients should not be changed from one formulation or make to another, without adequate counselling.

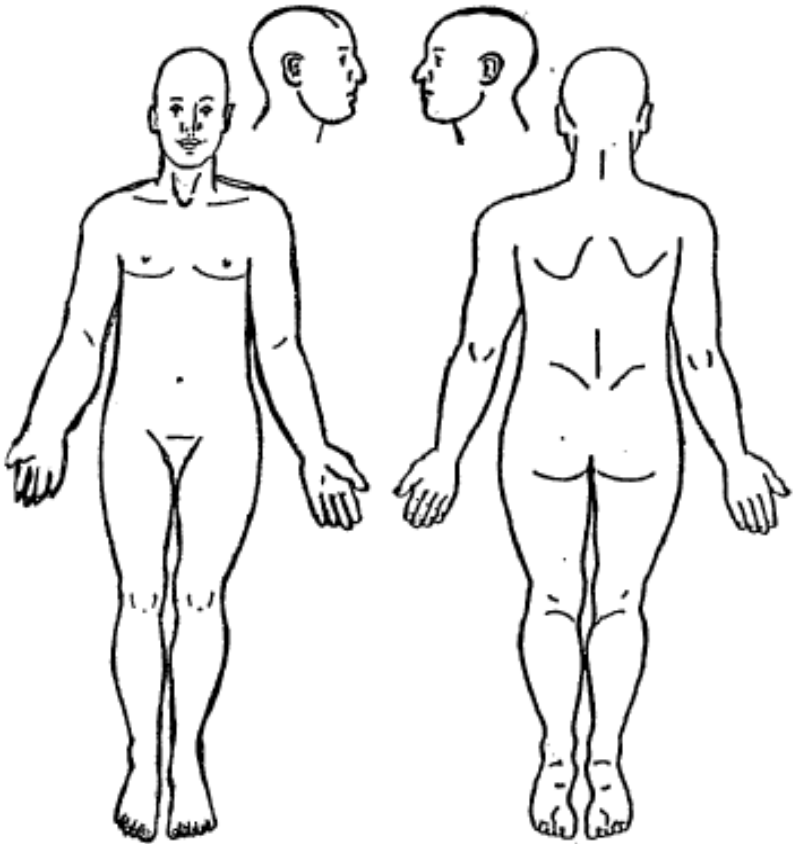
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Appendix 4: Initial Pain Assessment

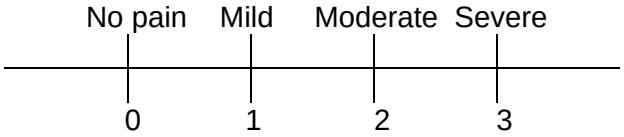
Patients Name _____ **Date**_____

Assessed by _____

Patients own description of pain/s (including pain score on 1st assessment



Allocate each site of pain a letter (A, B etc)



Summary of pain/s history

What makes pain better?

What makes pain worse?

Aims of pain management

Words to describe pain

Tender, Crushing, Squeezing, Stabbing, Sharp, Electric shock, Aching, Sore Burning, Continuous, Intermittent, Occasional, Throbbing, Dull, Discomfort

Initial Pain assessment sheets copyright © National Gold Standards Framework Centre Thomas K 2009. For details see Information Governance section of website

the gold standards framework

Appendix 5: Providing information to patients.

Many cancer care centres and public libraries have access to the internet. While the internet can provide a vast range of information, patients should be advised to act cautiously as they may not have the means of determining the accuracy or reliability of a site.

Cancerbackup Scotland Suite 2, Third Floor, Cranston House 104/114 Argyle Street, Glasgow G2 8BH Tel: 0141 223 7676/0808 800 1234 • Fax: 0141 248 8422 www.cancerbackup.org.uk
A free one to one service which provides counselling and emotional support for people with cancer and their families and friends. Produces over 50 booklets and a BACUP NEWS three times a year.

Cancer Help UK www.cancerhelp.org.uk
CancerHelp UK is the patient information website of Cancer Research UK. It provides a free information service about cancer and care for people with cancer and their families. It includes specific information on cancer and pain control.

Cancer in Scotland Scottish Executive Health Department, St Andrew's House, Regent Road Edinburgh, EH1 3DG Fax: 0131 244 2989 • Email: Cancer@scotland.gsi.gov.uk website www.show.scot.nhs.uk/sehd/cancerinscotland/
Cancer in Scotland identifies the wide range of actions necessary to prevent, detect and improve treatment and care for people with cancer in Scotland.

DIPEx (Database of individual experiences) www.dipex.org
DIPEx is a website that reports on a wide variety of personal experiences of health and illness. People can watch, listen to or read interviews, find reliable information on treatment choices and where to find support. The site covers heart disease, epilepsy, screening programmes and cancers.

Healthyliving Helpline: 0845 2 78 88 78 www.healthyliving.gov.uk
Promotes Scotland's healthy living programme and is designed to help people attain a
healthier diet and a more active lifestyle by providing resources, advice and support on healthy eating and physical activity.

Macmillan Cancer Support (Scotland) Osborne House, 1-5 Osborne Terrace, Edinburgh EH12 5HG Tel: 0131 346 5346 • Fax: 0131 346 5347 www.macmillan.org.uk • Email: agow@macmillan.org.uk
The Scottish office of the UK charity, which supports people with cancer and their families with specialist information, treatment and care.

Maggie's Centres Scotland Maggie's Dundee, Tom McDonald Avenue, Ninewells Hospital, Dundee DD2 1ZV Tel: 01382 496 384 www.maggiescentres.org • Email: maggies.centre@ed.ac.uk
The aim of Maggie's Centres is to help people with cancer to be as healthy in mind and body as possible and enable them to make their own contribution to their medical treatment and recovery.

Maggie's Edinburgh, The Stables, Western General Hospital, Crewe Road South Edinburgh EH4 2XU. Tel: 0131 537 3131 • Fax: 0131 537 3130
Maggie's Glasgow, The Gatehouse, Western Infirmary, 10 Dumbarton Road Glasgow G11 6PA Tel: 0141 330 3311 • Fax: 0141 330 3363
Maggie's Highlands, Raigmore Hospital, Old Perth Road, Inverness IV2 3UJ Tel: 01463 706306

Marie Curie Cancer Care (Scotland) 29 Albany Street, Edinburgh, EH1 3QN Tel: 0131 456 3710 • Fax: 0131 456 3711 www.mariecurie.org.uk
Marie Curie Cancer Care, a comprehensive cancer care charity, provides practical nursing care at home and specialist multidisciplinary care through its ten Marie Curie Centres.

Pain Association Scotland Cramond House, Cramond Glebe Road, Edinburgh, EH4 6NS Tel: 0131 312 7955 Freephone: 0800 783 6059 • Fax: 0131 312 6007 www.painassociation.com
The Pain Association Scotland is for all cancer patients suffering from pain and offers the opportunity for patients and their carers to join support groups.

Samaritans The Upper Mill, Kingston Road, Ewell, Surrey, KT17 2AF Tel: 020 8394 8300 Helpline: 0845790 90 90 • Fax: 020 8394 8301 www.samaritans.org.uk Email: admin@samaritans.org write to Chris, P.O. Box 90, Stirling, FK8 2SA
Samaritans is available 24 hours a day to provide confidential emotional support for people who are experiencing feelings of distress or despair, including those which may lead to suicide.

Health Talk Online has information and interviews with real patients, on a wide variety of topics, including cancer and palliative care – the latter has a section on cancer pain.
http://www.healthtalkonline.org/Dying_and_bereavement/Living_with_Dying/Topic/1199/