Katharine House Hospice
Stock Drug List
December 2006

Index

Introduction

This list comprises the drugs stocked at Katharine House Hospice. By default, it is also a list of the preferred drugs for the management of palliative care symptom at the hospice. They have all been carefully chosen, in terms of clinical efficacy, side effect profile, potential drug interactions, ease of administration, availability and cost. Being stock items, they should all be immediately available for use on being prescribed.

Doctors are not required to prescribe exclusively from this list when initiating new treatments, but they are asked to consider carefully whether their prescribing needs really cannot be met from it before prescribing alternatives. Non-stock drugs may take a day or more to arrive at the hospice and may be significantly more expensive than stock items.

Patients should bring in a supply of their own medicines on admission to the hospice. Obviously, these will often include non-stock items. Many of these may be for the effective management of chronic health problems but some might be for the management of palliative care symptoms. All such medicines should be continued if they are clinically appropriate and effective, even though they might not be our preferred choices. We will obviously order in fresh supplies to replace the patients' own drugs when these run out.

The stock drug list is laid out in the same way as the British National Formulary, with the exception that miscellaneous and borderline substances are placed in the most appropriate chapter rather than in appendices. The brief notes that follow each list are primarily intended to help new doctors to the team understand present prescribing practice within the hospice. They are most certainly not a substitute to the British National Formulary or the Palliative Care Formulary when it comes to requiring detailed information on any of the listed drugs.

The list will be reviewed on an annual basis. Please advise the Medical Director of any requests for new or alternative medications to be considered for the list, and the Senior Nurse of any requests for new or alternative dressings or appliances to be considered for the list. There are request forms at the back of this document for this purpose.

Katharine House Hospice Principles of Good Prescribing

(Developed by the medical team and found in Section K of the Katharine House Hospice Drug Policy)

1. Keep it simple:
    a. Avoid unnecessary polypharmacy.
    b. Avoid unnecessarily splitting drugs into multiple daily doses.
    c. Avoid prescribing dose ranges for regular drugs.
    d. Use the initiation of medication administration by syringe driver as an opportunity to review the appropriateness of all oral medications.

2. When prescribing:
    a. Be aware of any drug allergies or side effects that the patient has previously experienced.
    b. Know the specific clinical indication for each drug that you prescribe.
    c. Stick to formulary drugs whenever possible.
    d. Consider potential drug interactions.
    e. It may be appropriate for patients admitted on non-formulary drugs to remain on them.
    f. Consider whether any current medications can be discontinued.
    g. Ensure all inpatients are prescribed a minimum set of core PRN drugs at appropriate doses.
    h. Try to anticipate potential clinical problems that may arise over time so that appropriate medication is available if required.
    i. Print the names of medicines on the drug chart.
    j. With certain exceptions (see Section K.1.5 of the Drug Policy), only use generic drug names on the drug chart.

3. When treating a symptom:
    a. Symptom management is easier if the underlying cause has been sought and understood.
    b. Stick to any treatment pathways that have been approved by the in-house medical team.
    c. Generally aim for one medication change at a time.
    d. Ensure that therapeutic trials are of sufficient duration for any possible benefit to materialise.
    e. Discontinue drugs that do not help the patient.

4. When offering medication-related advice to the patient:
    a. Keep explanations simple. Explain what the treatment is for and consider carefully how much information on mechanisms and side effects will actually be helpful for the patient.
    b. Bear in mind that the majority of your message will be conveyed non-verbally.

5. Keep yourself and others up to date:
    a. Try to maintain an up-to-date medication list in the patient's notes.
    b. Communicate medication changes promptly with relevant team colleagues and the GP.

6. To ensure continuity of treatment at the time of transfer to the hospice from a hospital, request that patients come with a seven-day supply of medication.

7. All of the following considerations are important when determining which member of a class of drugs to include in a formulary: clinical efficacy, side effect profile, potential drug interactions, ease of administration, availability, and cost.

Chapter One: Gastro-intestinal System

1.1.1	Asilone suspension	500ml
1.2	Hyoscine Butylbromide	20mg/ml injection, 1ml ampoule
1.3.1	Ranitidine	150mg tablets
1.3.5	Lansoprazole	30mg FasTabs
1.4.2	Loperamide	2mg capsules 1mg/5ml syrup
1.6.2	Bisacodyl	10mg suppositories
1.6.2	Co-danthrusate	50/60 capsules 50/60 in 5mls suspension
1.6.2	Docusate sodium	100mg capsules 50mg/5ml
1.6.2	Glycerol	700mg suppositories
1.6.2	Senna	7.5mg tablets 7.5mg/5ml syrup
1.6.3	Arachis oil	Enema
1.6.4	Phosphate	128ml enema
1.6.4	Lactulose	3.1-3.7g/5ml liquid
1.6.4	Macrogol 3350	13.125g sachets
1.6.4	Micro-enema	5ml enema
1.7.2	Anusol ointment	30g tube
1.9.4	Pancreatin (Creon ™)	10,000 unit capsules
(Misc.)	Peppermint water	100mls
(Misc)	Mouthwash tablets	

Notes on gastro-intestinal system drugs

Asilone is the preferred antacid because of its comparatively low sodium content.

Hyoscine butylbromide tablets have an oral bioavailability of 10% and are typically ineffective in the management of colic. Therefore parenteral hyoscine butylbromide is used.

Whilst misoprostol is the most effective drug for prophylaxis against NSAID-induced upper GI complications, it is poorly tolerated and **lansoprazole** is our drug of choice when we consider such prophylaxis appropriate. There is some evidence to suggest that the total volume of gastric secretions is reduced more with **ranitidine** than with Proton Pump Inhibitors. This might be helpful in the management of upper gastrointestinal obstruction.

The opioid antidiarrhoeal agent **loperamide** acts directly on the gut mucosa. Its low oral bioavailability and active removal from the CNS give it a preferable side effect profile to codeine phosphate, over which it also has a longer duration of action. In palliative care, total daily doses as high as 32mg/day are not exceptional.

Arachis oil enemas (traditionally viewed as “softening” enemas) must not be administered to people with a peanut allergy.

The danthron in **co-danthrusate** is excreted in urine (which it turns red) as well as faeces. Danthron causes skin burns when in prolonged contact with the skin. Therefore, it must not be used in the incontinent or patients with spinal cord compression.

Whilst it is classified as a stimulant laxative, **docusate** is a detergent that is typically used to keep the faeces soft in patients with or at risk of subacute bowel obstruction.

The human gut cannot digest or absorb the synthetic disaccharide found in **lactulose**. However, bacteria in the large intestine can digest it, releasing hydrogen and carbon dioxide. This gas can cause bloating and colic, and many palliative care patients tolerate lactulose poorly.

Macrogols 3550 is a potent osmotic laxative that is not absorbed from the gut. It can be tried as an alternative to rectal measures in the management of faecal impaction. In the routine management of constipation it is best used as a second- or third-line choice.

Creon ™ is helpful in the management of steatorrhoea, which is typically seen in the context of an obstructed common bile duct. The dose can be gradually titrated upwards until the desired effect is achieved. Chronic high dose treatment can cause colonic strictures, but in theory the dose can be increased according to the clinical response so long as the perianal skin does not start to autodigest.

Peppermint water relaxes the gastro-oesophageal sphincter, whereas metoclopramide tightens it.

Chapter Two: Cardiovascular System

2.1.1	Digoxin	62.5 microgram tablets
2.2.1	Furosemide	20mg tablets 40mg tablets 50mg/5ml liquid 10mg/ml injection, 2ml ampoule
2.2.3	Spironolactone	50mg tablets 100mg tablets
2.2.3	Amiloride	5mg tablets
2.4	Atenolol	25mg tablets
2.6.1	Glyceryl trinitrate	400micrograms/metered dose spray
2.8.1	Dalteparin sodium	10,000 unit injection, graduated syringe
2.8.2	Warfarin	1mg tablets 3mg tablets
2.9	Aspirin	75mg dispersible tablets
2.11	Tranexamic acid	500mg tablets

Notes on cardiovascular system drugs

There is no benefit in regularly monitoring the radial pulse of a patient on **digoxin**.

Oral **furosemide** has little impact on malignant ascites. Concurrent use of corticosteroids and a range of other drugs increase the risk of hypokalaemia. Many patients are admitted on long-term furosemide therapy and it is often seems appropriate to stop this treatment. However, such patients must be monitored carefully as about half of them will develop heart failure within four weeks of stopping treatment.

Spironolactone can relieve malignant ascites in 66% cases. Doses as high as 300mg/day may be required, and the best results are seen in patients with extensive hepatic metastases. Aspirin (and possibly other NSAIDs) reduce its effectiveness. Gastric irritation, nausea and vomiting are quite common dose-limiting side effects. Spironolactone is typically started at a dose of 50mg/day and gradually titrated upwards as tolerated.

The once-daily dose of subcutaneous **dalteparin sodium** in the management of DVT/PE is 200U/kg. This is also the drug of choice in the management of DIC. The risk of bleeding is increased if warfarin, aspirin or NSAIDs are co-prescribed. The antidote for dalteparin sodium is protamine sulphate. Ascorbic acid, digoxin, antihistamines and tetracyclines also reduce its effect.

The risks of haemorrhage whilst on **warfarin** is obviously higher if the patient is also taking a corticosteroid and/or non-steroidal. Warfarin use needs to be particularly carefully monitored in advanced cancer because the development of hepatic and/or renal metastases can cause rapid and massive increases in the INR. This sometimes catches doctors out when their patients have been on the same dose of warfarin for many years. There typically comes a point for most cancer patients on long-term warfarin (e.g. for atrial fibrillation, heart valve disease, etc) when the risks of continued therapy outweigh the risks of discontinuation.

It is typically appropriate to discontinue regular **aspirin** therapy if a patient is put on a regular NSAID.

Tranexamic acid inhibits the breakdown of fibrin clots. It must not be used in DIC or in the management of bleeding from the renal tract. Blood levels can rise significantly in renal impairment. The tablets are very large to swallow. They can be crushed and applied topically to bleeding surfaces or as a mouthwash.

Whenever it is considered appropriate to scale down antihypertensive therapy with multiple drugs, careful consideration should be given to the order in which the drugs are removed.

Atenolol is sometimes used in the management of tremor and sweats. The buccally-absorbed content of a bitten nifedipine 10mg capsule (N.B. non-stock item) is sometimes used to relieve oesophageal spasm or tenesmus.

Chapter Three: Respiratory System

3.1.1	Salbutamol	100mcg/dose (200dose) inhaler 2.5mg nebules 5mg nebules
3.4.1	Chlorphenamine	4mg tablets 10mg/ml injection, 1ml ampoule
3.4.3	Adrenaline	1mg/ml injection, 1ml ampoule 0.3mg epipen
3.6	Oxygen	Cylinders
3.9.2	Simple linctus	100ml

Notes on respiratory system drugs

Salbutamol 5mg nebules can cause tremor, and regular use can cause hypokalaemia, particularly in combination with corticosteroids. In cases of dyspnoea without reversible airways obstruction, nebulised **saline** often provides equal symptom relief to salbutamol.

Chlorphenamine is anticholinergic and will therefore inhibit the prokinetic effect of metoclopramide.

Oxygen must be prescribed before use. Its use can be life-threatening in hypercapnic patients. Studies have shown that piped air can be as effective as piped oxygen in the relief of dyspnoea in some patients.

Many hospice patients with a troublesome dry cough are already on an opioid. There is no advantage to starting them on an additional opioid-based cough linctus, but the use of **simple linctus** might be appreciated. For the opioid-naïve, it still makes sense to start with simple linctus, and if this is insufficient it can be replaced by a liquid preparation of **morphine** or **methadone**.

Chapter Four: Central Nervous System

4.1.1	Temazepam	10mg tablets 10mg/5ml solution
4.1.1	Zopiclone	3.75mg tablets
4.1.2	Diazepam	2mg tablets 5mg tablets 5mg/5ml suspension
4.1.2	Lorazepam	1mg tablets
4.2.1	Chlorpromazine	25mg tablets 50mg tablets 25mg/5ml suspension 25mg/ml injection, 2ml ampoule
4.2.1	Haloperidol	0.5mg capsules 1.5mg tablets 5mg tablets 2mg/ml liquid 5mg/ml injection, 1ml ampoule
4.2.1	Levomepromazine	25mg tablets 25mg/ml injection, 1ml ampoule
4.3.1	Amitriptyline	10mg tablets 25mg tablets 50mg tablets 50mg/5ml suspension
4.3.3	Citalopram	10mg tablets 20mg tablets 40mg/ml oral drops, 15mls
4.6	Cyclizine	50mg tablets 50mg/ml injection, 1ml ampoule
4.6	Metoclopramide	10mg tablets 5mg/5ml liquid, 100ml 10mg/2ml injection, 2ml amp
4.6	Hyoscine hydrobromide	1mg/72hrs patch
4.7	Co-codamol	8/500mg tablets 30/500mg tablets
4.7	Paracetamol	500mg caplets 500mg soluble tablets 250mg/5ml suspension (Sugar free)
4.7.2	Tramadol	50mg capsules
4.8.1	Sodium valproate	200mg EC tablets 500mg EC tablets 200mg/5ml solution
4.10	Nicotine	5mg/16 hours patch

Notes on central nervous system drugs

Nicotine replacement is rarely required in practice.

Whilst the stock drug list contains four different benzodiazepines (including midazolam, Chapter 15) and zopiclone, there is no benefit in mixing these drugs and such practice is best avoided. Night sedatives lose their clinical effectiveness after about 7 nights use. The recommended dose range for **zopiclone** is 3.75-7.5mg nocte. It is almost four times as expensive as **temazepam**. When a patient cannot sleep because of agitation or racing thoughts, then a small nocte dose of **chlorpromazine** might be a better choice. A depressed patient with insomnia might fare better on **amitriptyline**.

Oral **diazepam** works within 15 minutes of taking an oral dose. An appropriate single dose of diazepam at night can provide night sedation *and* daytime symptom relief.

Chlorpromazine is highly sedative whereas **haloperidol** is not. Haloperidol is our neuroleptic of choice, and chlorpromazine is reserved for occasional use in particularly agitated patients. Standard haloperidol doses and very low **levomepromazine** doses have antiemetic properties. Neuroleptic properties cannot be expected with the antiemetic levomepromazine doses routinely used in palliative care. Levomepromazine can cause nasty skin reactions when administered subcutaneously by syringe driver but, due to its long half-life, it can provide effective antiemesis if given as a once-daily subcutaneous injection.

Many people have “appropriate sadness” rather than depression requiring pharmacological treatment. It takes at least two weeks before one can expect to see the effects of an antidepressant. Tricyclics are preferable in the management of more serious depression. There is little to choose between the different agents, and **amitriptyline** is our tricyclic of choice. Full BNF doses are not always required. It can also be used in the management of neuropathic pain and bladder instability. In rare instances, it can exacerbate opioid toxicity. **Citalopram** is the SSRI of choice at Katharine House.

Cyclizine can precipitate easily with other diluents in a syringe driver. It is best mixed with water, and the total dose in a 24-hour syringe driver is best kept to 100mg when it is mixed with other drugs. **Metoclopramide** doses of up to 100mg/day can be used in a syringe driver.

Up to 10% Caucasians lack the enzyme required to convert **codeine phosphate** into its analgesic metabolites. They derive no analgesic benefit from codeine phosphate and may be more susceptible to its side effects.

Whilst the maximum recommended daily dose for **paracetamol** is 4g, in some patients for whom it provides effective analgesia we sometimes prescribe a regular dose of 1g QDS *plus* an extra two PRN doses of 1g paracetamol/day.

Hyoscine hydrobromide skin patches can help with drooling and choking in patients with swallowing difficulties, such as those with advanced neurodegenerative disease. However, it can cross the blood brain barrier and, being a potent anticholinergic, can cause agitation and even psychosis.

Although **tramadol** is classed as a weak opioid, this claim is debatable when one considers that its mu-opioid receptor affinity is 1/7,000 that of morphine. Its primary mechanism of analgesic action may stem more from noradrenergic and serotoninergic receptor activity. It is worth trying in patients who do not get a good analgesic response from more standard opioids.

Simply following the WHO analgesic ladder is a good starting point in the management of neuropathic pain. When more specific therapy is required, two good first-line choices are **sodium valproate** and **amitriptyline**. Favourable responses can be seen after as little as five days. Sometimes combination therapy with both drugs is required, and/or the addition of corticosteroid.

Chapter Five: Infections

5.1.1.1	Phenoxymethylpenicillin	250mg tablets
5.1.1.2	Flucloxacillin	250mg capsules 250mg/5ml syrup
5.1.1.3	Amoxicillin	250mg capsules 250mg/5ml syrup
5.1.1.3	Co-amoxiclav	250/125mg tablets 250/125mg dispersible tablets
5.1.5	Erythromycin	250mg tablets 250mg/5ml suspension
5.1.11	Metronidazole	200mg tablets 200mg/5ml suspension
5.1.13	Nitrofurantoin	50mg tablets
5.2	Fluconazole	50mg capsules 50mg/5ml suspension
5.2	Nystatin	100,000U/ml suspension
(13.10.2)	Clotrimazole	1% cream, 20g
(Misc.)	Sodium hypochlorite	1% solution, 5 litres

Metronidazole 0.75% gel is very expensive. We do not stock it because it is equally effective and much cheaper to use a crushed metronidazole tablet mixed in lubricating jelly.

In the management of candidiasis, systemic treatment with oral **fluconazole** is generally more convenient for patients than topical treatment with **nystatin**. A single stat dose of fluconazole 150mg appears to work as well as 50mg/day for 5 days.

Antibiotic guidelines

Our patients have a high chance of carrying hospital-acquired micro-organisms, including MRSA and multiple-drug resistant E.coli. The ORH Trust Microbiology Department has advised that we consider our patients as “hospital patients” rather than “community patients” when it comes to the management of infections with antibiotics. Recent evidence suggests that elderly people are at higher risk of developing C.difficile diarrhoea if they receive quinolone or cephalosporin antibiotics in preference to other suitable alternatives. These antibiotics should be avoided when possible.

Although intravenous antibiotics are often used in the management of acute infections in the inpatient hospital setting, there are very few clinical scenarios where they have a distinct therapeutic advantage over oral ones. If a hospice inpatient clearly needs intravenous antibiotic, it is likely that they would best be cared for in hospital rather than in the hospice.

The following guidance regarding the empirical use of antibiotics is adapted from the October 2006 ORH Trust guidelines and includes the recommendations of the British Lymphology Society:

Respiratory Tract Infection	
- Mild	First choice: Amoxicillin 500mg tds for 3-5 days. If penicillin-allergic: Erythromycin 500mg qds for 3-5 days.
- Moderate/Severe	First choice: Co-amoxiclav 375mg tds plus eryrthromycin 500mg qds for 5-7 days. If penicillin-allergic: Erythromycin 500mg QDS for 5-7 days.
Urinary Tract Infection *	
- With catheter	Bacterial colonisation of the urine is normal in catheterised patients. Urine diptests will be predictably positive. If the patient is asymptomatic then no antibiotic or other treatment is required. Males with long term catheters should be given a stat dose of co-amoxiclav 375mg 1 hour before the catheter is changed. Catheterised patients with a symptomatic UTI should have the catheter removed as part of the treatment of their UTI. It should subsequently be replaced with a new one.
- Complicated UTI	(i.e. UTIs in males, recurrent UTIs, and UTIs associated with pyrexia, loin pain, leucocytosis, a known renal tract abnormality, or urinary catheterisation) First choice: Co-amoxiclav 375mg tds plus amoxicillin 250mg tds for 7 days. If penicillin-allergic: Nitrofurantoin 50mg qds for 7 days.
- Uncomplicated UTI	(i.e. UTIs in females with no complicating features) First choice: Co-amoxiclav 375mg tds plus amoxicillin 250mg tds for 3-7 days. If penicillin-allergic: Nitrofurantoin 50mg qds for 3-7 days.
*Information regarding the use of urine diptests can be found on page 17.	
Cellulitis	
- Acute	First choice: Amoxicillin 500mg tds. Add in flucloxacillin 500mg qds if there is suggestive evidence of staphylococcal involvement (e.g. folliculitis, pus or crusting). Continue for at least 14 days after there has been a clinical response to treatment. If penicillin-allergic: Clindamycin 300mg qds (N.B. non-stock drug). Continue for at least 14 days after there has been a clinical response to treatment.
- Prophylaxis	This is given to patients who have two or more acute inflammatory episodes/year. It is discontinued after two years without an acute inflammatory episode. First choice: Phenoxymethylpenicillin 500mg/day, reduced to 250mg/day after 1 year without acute inflammatory episodes. If penicillin-allergic: Erythromycin 250mg/day. Third choice: Clarithromycin 250mg/day (N.B. non-stock drug).
Wound Infections	First choice: Await microbiology result if clinically possible. Otherwise give flucloxacillin 1g qds for 5-7 days. Add metronidazole if the wound smells offensive.

Chapter Six: Endocrine System

6.1.1	Insulin Actrapid	100U/ml vial, 10ml
6.1.2.1	Gliclazide	80mg tablets
6.1.4	Glucagon	1mg vial
6.1.6	Medisense	Optimum H Blood Test Strips
6.1.6	Medisense	Glucose and ketone control solutions
6.3.2	Dexamethasone	500microgram tablets 2mg tablets 8mg/2ml injection
6.6.2	Disodium pamidronate	15mg/ml, 2ml ampoule 15mg/ml, 6ml ampoule

Notes on drugs used for endocrine problems

About 40% cancer patients demonstrate impaired glucose tolerance if formally tested. This can sometimes be attributed to corticosteroid or diuretic treatment.

Insulin-dependent diabetics should be maintained on their routine insulin products. Even when moribund, they require a baseline insulin dose of about 10-20 units/day to avoid diabetic ketoacidosis. Throughout their diabetic life, they will probably have maintained tight blood sugar control in order to minimise the risk of developing the serious long-term complications of diabetes that typically take years to establish. However, at the end of life, tight blood sugar control runs the risk of repeated hypoglycaemic attacks. In this context, a fasting blood sugar of 12mmol/L or more may be very acceptable if the patient remains asymptomatic.

In Type II diabetes, many oral hypoglycaemics (including chlorpropamide, glibenclamide and metformin) become unsafe in the elderly and those with renal or hepatic impairment. **Gliclazide** is a preferable choice. The renal threshold increases considerably with age, so urinary monitoring of diabetic control becomes less reliable. When there is no need for intensive monitoring, then a twice weekly fasting BM test in the morning may be sufficient and, in many cases, no monitoring at all would be acceptable.

200ml of milk or 60mls of Lucozade™ can be used to treat hypoglycaemia. If unable to swallow because of the hypoglycaemia then 1mg **glucagon** by injection should be given in the first instance, followed by oral glucose.

Dexamethasone is a good choice of corticosteroid for long-term high-dose treatment because it has negligible mineralocorticoid activity. Tablets can be crushed and dissolved in water. 0.75mg oral dexamethasone is roughly equivalent to 5mg oral prednisolone. Adrenal suppression is possible at oral dexamethasone doses above 1mg/day. Rifampicin and several anticonvulsants dramatically induce the hepatic metabolism of corticosteroids, requiring an increased dose for the same therapeutic effect. Whilst parenteral dexamethasone is available, its pH precludes its inclusion in medication mixtures for syringe drivers. Corticosteroids are typically discontinued when a patient is no longer able to swallow. Suitable dexamethasone starting doses are:

Anorexia	4mg/day
Antiemesis and raised intracranial pressure	8mg/day
Spinal cord compression	16mg/day

The appropriate **pamidronate** dose depends on the condition being treated:

1. For hypercalcaemia due to cancer, the dose depends upon the calcium level:

Corrected calcium level	Pamidronate dose
up to 3.0 mmol/L	15-30mg
3.0-3.5 mmol/L	30-60mg
3.5-4.0 mmol/L	60-90mg
>4.0 mmol/L	90mg

2. For bony pain due to cancer deposits in the bone, the recommended dose is 90mg.
3. The recommended treatment for Paget's disease of the bone is six doses of 30 mg spaced at weekly intervals, or three doses of 60 mg spaced at fortnightly intervals. Some of these patients require vitamin D supplements to prevent hypocalcaemia.
4. We do not provide regular prophylactic pamidronate infusions that form part of some patients' routine oncological management.

In order to protect the kidneys, pamidronate must be diluted to a maximum of 60 mg in 250 ml before infusion. The infusion rate must not exceed 60 mg/hour, or 20mg/hour if there is significant kidney damage. Renal function should be checked periodically in patients who receive repeated pamidronate infusions. Osteonecrosis of the jaw is a rare but serous complication of bisphosphonate treatment. Please provide patients with an information sheet and obtain consent before administering this drug.

The antibiotic **demeclocycline** (N.B. non-stock drug) can be used in the management of the syndrome of inappropriate ADH secretion (SIADH).

(Misc.)	Multistix 8-SG	
(Misc.)	Lubricating jelly	42g tube
(Misc.)	Sodium Chloride 0.9%	Bladder irrigation

Notes on drugs used for obstetric, gynaecologic and urinary-tract disorders

Multistix 8-SG urine diptests should only be performed when there is a clinical suspicion of a symptomatic UTI.

- If the diptest is positive for both nitrite and leucocyte esterase in a patient for whom a UTI is suspected, then a UTI is highly likely, and this finding is sufficient to start empirical antibiotic treatment.

- If the diptest is positive for either nitrites or leucocyte esterase (but not both) in a patient for whom a UTI is suspected, then the result is basically indeterminate. It should be repeated on a subsequent specimen of urine. If the result is persistently indeterminate then a MSU should be considered.
  Whilst a positive test for nitrites makes a UTI quite likely, a negative test does certainly not exclude it. On the other hand a positive leucocyte esterase test in isolation is insufficient to make any prediction about the presence of a UTI.

- If the diptest is negative for both nitrites and leucocyte esterase in a patient for whom a UTI is suspected, then a UTI can be ruled out.

The presence of blood, protein or other substances in the urine is irrelevant to the diptest diagnosis of a UTI. A number of factors can lead to false results:

	False Positive Result	False negative result
Nitrite test	• Contamination. • Prolonged exposure of dipstick to air prior to use.	• Elevated specific gravity. • Nitrate reductase-negative bacteria. • pH < 6.0. • Vitamin C.
Leucocyte esterase test	• Contamination.	• Elevated specific gravity. • Glycosuria, ketonuria, proteinuria. • Cefalexin • Nitrofurantoin • Tetracycline • Gentamicin • Vitamin C

When is it appropriate to send a urine specimen to microbiology?
In our patient group, it is only necessary to send off a MSU for diptest-positive cases of uncomplicated UTI when they fail to respond to empirical antibiotic treatment.

It is good practice to send off a MSU for all diptest-positive cases of complicated UTI.

MSUs should also be sent off for:
- Persistently indeterminate diptest results.
- Persistently negative diptest results when a UTI is still strongly suspected.
- Any UTI that fails to respond to empirical treatment.

Catheter specimens of urine are much less helpful than MSUs from the same patient.

8.3.4.3	Octreotide	100microgram/ml, 1ml ampoule 500microgram/ml, 1ml ampoule

Notes on drugs used in malignant disease and immunosuppression

A syringe driver of subcutaneous **octreotide** is sometimes used in the management of vomiting secondary to upper gastrointestinal obstruction. It should be mixed with saline rather than water. It is expensive, and a trial of hyoscine butylbromide 100mg/day plus cyclizine 100mg/day by syringe driver should always have been tried first. The effective dose can vary considerably between patients, but it would be reasonable to start at 200microgrammes/day and titrate upwards in 200microgramme/day increments. In some patients, it appears to be more effective in combination with hyoscine butylbromide.

Patients due a **goserelin** implant should have this prescribed by their GP even if it is administered at the hospice.

Chapter Nine: Nutrition and blood

9.1.1.1	Ferrous sulphate	200mg tablets
9.2.2.1	Sodium Chloride 0.9%	250ml bag 500ml bag
9.2.2.1	Water for injection	10ml units
9.6.3	Ascorbic acid with zinc	1g tablets

Notes on nutritional and blood products

Ascorbic acid with zinc is sometimes used at a dose of ¼ tablet on the tongue qds to help lift the dirty coating that can accumulate on the tongue of very ill patients.

Chapter Ten: Musculoskeletal and joint diseases

10.1	Ibuprofen	10% gel, 100g
10.1	Celecoxib	100mg capsules
10.1.1	Diclofenac	50mg EC tablets 50mg dispersible tablets 75mg MR tablets 100mg M/R capsules 50mg suppositories
10.2.2	Baclofen	10mg tablets

Notes on drugs used for musculoskeletal and joint diseases

Diclofenac is the NSAID of choice at Katharine House Hospice. It is sometimes used at a total daily dose of 200mg.

The selective COX-2 inhibitor **celecoxib** is used in a small number of patients in whom the use of a standard NSAID is considered too risky. There is probably an increased risk of acute cardiovascular and thrombotic cerebrovascular events when selective COX-2 inhibitors are used long term in preference to unselective COX-inhibitors. However, they are probably safer to use in patients with asthma, renal impairment, or multiple risk factors for upper gastrointestinal haemorrhage.

In addition to its use in muscle spasm, **baclofen** can be helpful in the management of hiccups due to diaphragmatic irritation.

Chapter Eleven: Eye

11.3.1	Chloramphenicol	1% ointment, 4g
11.8.1	Hypromellose	0.3% eye drops, 10mls

Notes on products used for eye conditions

Eye ointments can be smeared on the drawn-back lower eyelid. More drug is typically retained in this way than with the use of eye drops.

Chapter Twelve: Ear, nose and oropharynx

12.1.3	Sodium bicarbonate	5% ear drops, 10mls
12.3.1	Choline Salicylate, BP	8.7% gel, 15g
12.3.4	Chlorhexidine	0.2% mouthwash, 300ml
12.3.5	Biotene oralbalance	50g tube

Notes on products used for ear, nose and oropharyngeal conditions

Biotene oralbalance is a pH neutral saliva substitute gel. Certain of the saliva substitute sprays contain pork extracts and are therefore unsuitable for patients from certain religious backgrounds.

Chapter Thirteen: Skin

13.2.1	Aqueous cream BP	100g tube
13.2.1	E45 cream	50g tube
13.2.1	Diprobase cream	50g tube
13.2.1	Paraffin liquid 50% in WSP	250g tub
13.2.1	Paraffin yellow soft	15g tube
13.2.1.1	Oilatum emollient bath additive	250ml
13.4	Hydrocortisone	1% ointment, 15g
13.10.2	Clotrimazole	1% cream, 20g
13.10.3	Aciclovir	5% cream, 2g
13.11.1	Sodium Chloride 0.9%	5ml units 25ml sachet
13.11.2	Chlorhexidine	20% solution, 500mls
A8.1.3	Purilon gel	15g tube
(Misc.)	Menthol 1% in aqueous cream	200g

Notes on products used for skin conditions

The preferred unit of measurement when prescribing creams for topical use, especially corticosteroid creams, is the “finger tip unit”.

Aqueous cream can be used as a soap substitute or as an emollient for normal or slightly dry skin. **Diprobase** is a better choice for drier skin.

Paraffin liquid 50% in white soft paraffin is useful for scaling or cracked skin. It should be applied in the direction of hair growth to reduce the risk of folliculitis.

Menthol 1% in aqueous cream can be helpful in the management of itchy skin.

Chapter Fourteen: Immunological products and vaccines

No stock items from this section.

Notes on immunological products and vaccines

Patients wanting **influenza immunisation** should be referred to their General Practitioner.

Some cancer patients are sometimes put on **interferon**. However, it typically produces intolerable side effects, and most patients feel much better when they come off it.

Chapter Fifteen: Anaesthesia

15.1.4.1	Midazolam	5mg/ml, 2ml amp
15.1.7	Flumazenil	100 micrograms/ml injection, 5ml ampoule
15.1.7	Naloxone	400micrograms/ml injection, 1ml ampoule
15.2	Lidocaine	2% injection, 5ml ampoule
15.2	Instillagel ™	Lubricating gel, 11ml syringe

Notes on anaesthetic products

Midazolam is a water-soluble benzodiazepine. Its short half-life (2-5 hours) increases in the presence of hepatic or cardiac failure and it can increase threefold in the over-60s. Active metabolites can also accumulate in renal impairment. At least 30mg/day must be administered if an anticonvulsant dose is required.

In the unlikely event of needing to consider using the benzodiazepine antagonist **flumazenil**, you should be confident that it would not be preferable to let the patient simply sleep off the apparent excess benzodiazepine. It is given intravenously: 200microgrammes over 15 seconds followed by a further 100 micrograms every 60 seconds if required, to a maximum total dose of 600 micrograms. Lack of response suggests that the diagnosis of benzodiazepine overdose is wrong. Its use can be associated with agitation, fear, panic and (rarely) convulsions.

Naloxone is used to reverse *serious* opioid-induced *respiratory depression* rather than improve an opioid user's conscious state. Its use typically results in severe pain and hyperalgesia, so it must only be used when absolutely essential. It is often preferable to simply let the excess opioid metabolise away, and naloxone use would be hard to justify in non-cyanosed patients with a respiratory rate of 8/minute or more. It is given as an intravenous bolus of 100-200 micrograms, followed by a further 100 micrograms every two minutes if required. As it only acts for 0.5 – 4 hours, subsequent intramuscular doses of 100 micrograms might be required to reverse the effects of long-acting opioids.

The maximum safe dose for **lidocaine** in infiltration analgesia is 200mg, which is equivalent to 10mls of lidocaine 2%. Lower doses are advisable in the elderly, debilitated, and those with epilepsy, cardiac conduction defects, and hepatic or respiratory impairment. Take great care to avoid intravascular administration. Systemic side effects are most likely when maximum blood levels are reached, and this occurs about 10-25 minutes after local infiltration. Patients should be monitored for side effects for at least this long. **Instillagel ™** should not be used in a traumatised urethra.

Appendix One: Stock Dressings List

Alginate Dressings:	ActivHeal Rope ActiveHeal Non-adherent Kaltostat
Foam Dressings:	Tielle Lite Tielle Allevyn Non-adhesive Allevyn Adhesive
Hydrogel Dressings:	Nu-gel
Hydrocolloid Dressings:	Aquacel Duoderm Granuflex
Vapour-permeable films:	Tegaderm Bioclusive C-View
Low Adherence Dressing and ound Contact materials:	Mepore Mepilex Border Mepilex Lite Mepitel
Odour Absorbent Dressings:	Actisorb Silver

Appendix Two: Stock Controlled Drugs List

All Controlled Drugs are ordered using a Controlled Drug Requisition Book. There is no statutory requirement for Katharine House Hospice to have a Stock Drug List for Controlled Drugs. However, this is being encouraged as good practice within the ORH Trust and it is something that the hospice may subsequently consider.

Appendix Three: Suggested changes to the Stock Drug List

Please use a photocopy of this form to suggest additions or deletions to the stock drug list. Completed forms should be handed to the Medical Director. All suggestions will be considered at the subsequent annual review of the Stock Drug List.

Suggested addition to the list

Product (generic name): _____

Formulation(s): _____

Clinical indication(s): _____

Rationale: _____

_____

References (if appropriate): _____

_____

Suggested deletion from the list

Product (generic name): _____

Formulation(s): _____

Rationale: _____

_____

References (if appropriate): _____

_____