Formulary 2009-2011

An Essential Medicines Dosing Guide Based on the WHO Model Formulary

APPENDIX III

GENERAL INFORMATION ON PRESCRIBING IN THE ELDERLY

The following notes are generally applicable to prescribing for the patient aged **over 75 years**:

- Nearly all drugs are finally excreted by the kidney. Renal function falls by 50% average by the age of 75 years.
- 20% of subjects over the age of 80 years have clinically detectable dementia and many others will have a decline in cerebral function.
- The elderly have increased sensitivity to drugs acting on the central nervous system. The reasons are not fully understood and do not clearly relate to changes stated in 2 above.
- Nearly all drugs were originally evaluated and dosage schedules established in young patients with normal renal and other metabolic functions.
- Most sick, elderly people are significantly dehydrated. Extracellular fluid volume depletion may result in higher tissue concentrations of drugs administered.
- Adverse reactions are increased in the elderly. The incidence is at least 10% at 65 years rising to 20% at 75 years and over.
- The likelihood of adverse reaction increases with the number of drugs prescribed. The main drug groups responsible for causing problems are cardiac drugs (e.g. digoxin, diuretics and antihypertensives) and cerebrally acting drugs (e.g. anti-Parkinsonism drugs, antidepressants, hypnotics, tranquillisers and psychotropic drugs).
- Presentation of illness is often atypical in the elderly subject.

It follows from the above that:

- Small doses at longer intervals should be used. It is common to start with about 50% of the adult dose for the elderly.
- Drugs with prolonged half-lives should be avoided e.g. nitrazepam.

- Simple regimens where possible no more than 4 drugs prescribed at any one time should be used. A drug with a less frequent dosing interval (e.g. twice daily dosing) is preferred.

- Drugs with cerebral and cardiac effects should be used with extreme care. Sedatives and hypnotics should be the last resort in management of noisy, confused and agitated patients.

- CLEAR EXPLANATIONS should be given, with full instructions on every prescription including repeat prescriptions so that proper labels with full directions can be given (avoid vague terms like "as directed"). Check that patient is able to swallow tablets comfortably and operate medical devices given (e.g. inhalers or child resistant containers). Large print labels may be necessary for those with poor eyesight. Advise on over-the-counter drugs and alcohol to avoid drug interactions.

- REPEATS AND DISPOSALS. Instruct patients what to do when drugs run out, and also how to dispose of any that are no longer necessary. Try to prescribe matching quantities.

SPECIFIC CLINICAL SITUATIONS

- ACUTE CONFUSION. FIRST SEEK THE CAUSE. Look for infection present in 80% of such cases, cardiac problems, uraemia, drug side effects, stroke etc. IF ALL ELSE FAILS, for the very confused, aggressive or agitated patient try Thioridazine in syrup or tablet form, starting at 5-10mg [not on Mercy Ships list]. It is better to adjust the dose of this drug upward to achieve the desired effect than to chop and change to other drugs. This is the phenothiazine best tolerated by the elderly with the least hypotensive effect.

- INSOMNIA. Hypnotics are indicated in a few cases for relief of insomnia due to grief or other severe emotional stress. More commonly prescribed for the peace of mind of relatives, night nurses or doctors.

- OEDEMA. There are multiple causes in the elderly and drugs are not always indicated. Many cases are associated with immobility and venous insufficiency, lymphatic obstruction etc. in which cases diuretics are potentially harmful and do not reduce the swelling. But remember that approximately 50% of elderly people admitted to hospital have cardiac failure and significant number of others has hypoalbuminaemia due to sundry causes.

- HYPERTENSION. Current opinion is that treatment for hypertension is indicated for elderly patients, certainly up to the age of 80 years and probably

beyond, without which target organ damage may occur. Drugs of choice: a) Thiazide diuretics; b) Calcium channel blockers; and c) ACE inhibitors. Beta-blockers may cause confusion and precipitate heart failure in the elderly (cardiac reserve is markedly reduced by age alone).

- HYPOTHYROIDISM. The correct starting dose is thyroxine 25 micrograms, increased at monthly intervals. A higher starting dose is like to precipitate symptoms of ischaemic heart disease.

- DIZZINESS, GIDDINESS AND VERTIGO. These symptoms demand full investigation and correction of the cause. Prochlorperazine and related drugs are not appropriate for the elderly and may be positively harmful (may cause postural hypotension and falls).

- DIABETES IN THE ELDERLY. Often type II (non-insulin dependent), potentially serious and requires careful treatment (risk of death in a five-year period 4-5 times normal). Treatment:
  1) Diet – which may achieve reasonable control in 30% of cases;
  2) In combination with: - i) Insulin – prescribe long acting preparations with caution, as the elderly are known to be less likely to develop symptoms of hypoglycaemia until the situation is serious. ii) Oral agents – again long acting preparations should be used with great caution and some should be avoided altogether.

- USE OF NON-STEROIDAL ANTI-INFLAMMATORY DRUGS (NSAIDs) IN THE ELDERLY. It should be remembered as stated above that the sick elderly are often dehydrated and many are on diuretic therapy. Both may aggravate nephrotoxic effects of NSAIDs. Gastrointestinal side effects are common and may be dose related, use smallest effective doses and monitor closely.

- OSTEOPOROSIS. The occurrence of a fracture implies further fractures are almost certain. Consider hormone replacement therapy, biphosphonates and calcium supplements.

Finally, it is vital in the elderly to review treatment regularly and frequently. Long-term follow up must be maintained.