Geriatrics and Rehabilitation

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• **Ageing Issues**

The world’s population is aging, and the pattern of disease burden will change accordingly to favour degenerative-type diseases as opposed to acute illness. Ageing is the process by which there is an increase in age-specific mortality. It is universal, progressive and deleterious – although the rate of ageing varies greatly between individuals and organ systems.

1. Differences between old and young may be subdivided into
   a. Differences which always existed (cohort effect)
   b. Differences in risk exposure
   c. Differences in survival

2. Ageing may be
   a. Primary – intrinsic, extrinsic

Not all unhealthy elderly people are comparable to healthy young people, and it is not appropriate to extrapolate management plans. Physiological function tends to decline with age, and there is a threshold effect – certain risk factors increase the rate of decline, reaching the thresholds of disability and death earlier. Note that diseases are not always worse in older people, but may just be ‘different’ e.g. there is good evidence to suggest that the higher your blood pressure, the longer you live. Note:

1. Walking problems – e.g. Parkinson’s disease, drugs
2. Episodic problems – e.g. postural droop, cardiac events
3. Environmental problems – e.g. slippers, darkness
4. Behavioural problems – e.g. confusion, impulsiveness
5. Contributory problem – e.g. osteoarthritis, incontinence

Patients generally have multiple pathologies with a high risk of chronic disease, and many are on multiple medications (polypharmacy). There is an impaired homeostatic reserve with loss of adaptive response to stress, and a progressive generalised impairment of function. However, it is crucial to remember that not all old people are gomers – a typical breakdown of elderly patients:

1. Independent in personal care (Bathing, feeding, dressing) 97%
2. Continent 96%
3. Cognitively intact 94%
4. Freely mobile 90%
5. Independent in domestic care (cooking, housework, shopping) 82%
6. Living separately from children in own homes 76%
7. Providing support for others 60%

Fallacies:
1. All decline is due to ageing
2. All decline is due to disease
3. Frail elderly patients are just like healthy volunteers
4. You can expect to be ill/disabled when you get old

Ageing and sex:
1. Duke longitudinal study 1970:
   a. 50% of 80 to 90-year-olds still had mild/moderate interest in sex
   b. 20% of 80 to 90-year-olds men continued activity
   c. 15% of 60 to 94-year-olds had increased interest/activity
2. Reasons for stopping sexual activity include illness, loss of mate, loss of privacy, and never enjoying it much anyway. Ageing alone is not a reason for stopping sexual activity.
3. Compare geriatric medicine and sex – initially disgusting, then easy, finally rewarding and requiring skill, patience and experience.

• **Approach to the Older Person**

Outcome measures may be biological, psychological or social:
1. Death – all cause, cause-specific
2. Management – length of stay in hospital, living arrangement at discharge or fixed date
3. Impairment – paresis, dysphasia
4. Disability – all scales
5. Handicap – social activities, quality of life, emotions
Example: assessment scales for stroke patients:
1. Self-care – Barthel index
2. Social functioning – Frenchay Activity index
3. Orientation and intellect – Mini-Mental State Examination
4. Mood – Geriatric Depression Scale
5. Dysphasia – Frenchay Aphasia screening test, Token test, functional communication profile
6. Perception – Rivermead perception assessment
7. Arm function – Frenchay Arm test, Nine-Hole-Peg test, action arm test
8. Walking – walking speed, walking distance, frequency of falls

Assessment of the older person – a check list:
1. History and physical
   a. Active medical and psychiatric problems
   b. Functional problems
   c. Medication review
2. Patient biography, family history
3. Home/environment assessment, including ADL score and social network
   a. Physical ADLs – mobility, bathing, continence, dressing/grooming, feeding, toileting, transferring
   b. Practical ADLs – housekeeping, food preparation, shopping, transportation, self-medication, financial management, use of telephone
4. Mental status and MMSE
5. Risk assessment

Health prevention should address postural blood pressure, vision/hearing, thyroid, mobility (gait/balance, flexibility, foot care), nutrition (weight status, tissue stores, diet, dentition, albumin), and immunisations (influenza). Screening should include depression, osteoporosis, cancer, community supports, voluntary organisations and counselling.

Risk assessment – things to look out for include sensory impairment, multiple medical problems, poor social supports, >3 medications, caregiver burden, mental health problems, cognitive impairment, falling risk, medication/alcohol abuse, tobacco, nutritional risk and environmental hazards.

Multidisciplinary Care
A whole bunch of people are involved in healthcare, including the general practitioner, hospital clinical, private specialists, community pharmacy and voluntary organisations, and community health carers (OT, PT, DN, DT, SW, CONT, SLT, MOW, GN, NASC, home care, respite care and other silly acronyms).

Planning care in the community:
1. Involve the older person and family
2. Integrated care
3. Discuss all issues:
   a. Medical problems
   b. Background information
   c. Assessed needs
   d. Patient preferences
   e. Pharmaceutical issues
4. Plan interventions:
   a. Medication changes
   b. Symptom management
   c. Laboratory tests
   d. Referral
   e. Patient education
   f. Coordinating care
   g. Monitoring
   h. Family involvement
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Rehabilitation for Older People

Physical/social/environmental factors, illness-related factors and background/personal factors are all modified by cognitive appraisal (perceived meaning of disease), adaptive tasks and coping skills to provide an outcome.

The rehabilitation package in stroke:
1. Specific remedial therapy
2. Prevention of complications
3. Assessment of the impact of stroke
4. Retraining and psychological assessment
5. Education and involvement of the family
6. Provision of aids and adaptations
7. Mobilising a social support network
8. Counselling and support of carers

Falls are an important issue for older people:
1. 20% result in a physical injury
2. 25% avoid activity after falling – fear of falling often develops
3. Risk of going to an institution rises one year after a fall
4. 25% of people are dead or unable to walk independently 6 months after a hip fracture

Evidence for fall reduction following exercise programs:
1. Day et al (BMJ, 2002) – group balance exercises very effective reducing falls
   a. Home modification and vision correction also helpful, but not as much as exercise
2. Dunedin fall prevention studies – home exercise programme reduced falls over 2 years

Screening to determine suitability for exercise program – repeated chair stand for impairment of leg strength; timed standing on one leg for 10 seconds. If any difficulty, refer to physiotherapist for further evaluation and individual exercise program.

Rehabilitation Medicine

Rehabilitation is the process of helping a person to reach the fullest physical, psychological, social, vocational, avocational, and educational potential consistent with their physiological or anatomic impairment, environmental limitations and desires of life plans. Patients, their families and the rehabilitation team work together to determine realistic goals and to develop and carry out plans to obtain optimal function and adjustment to disability, despite residual functional limitations.

Rehabilitation is comprehensive and holistic, including prevention and early recognition, as well as inpatient, outpatient and extended care programmes. Anticipated patient outcomes of this process should include increased independence (via optimised function) and improved quality of life.
1. Management of disability rather than treatment of disease is emphasised
2. The rehabilitation specialist is considered a teacher/facilitator as well as a knower/doer
3. The patient is an active (rather than passive) participant in a multidisciplinary approach

Definitions:
1. Impairments – problems in body function/structure as a significant deviation from normal
2. Activity limitations – difficulties an individual may have in executing activities
3. Participation limitations – problems an individual may experience in life situations

Traumatic brain injuries are a leading cause of death and disability in the <40 age group. As well as physical (neurological) deficits, patients often have cognitive, behavioural, psychological and personality impairments. 50% are related to RTCs, and 25-50% may be combined with spinal injury.
1. Injury types – contusions/lacerations, coup/contra-coup, diffuse axonal injury, diffuse vascular injury, cranial nerve and pituitary damage, 2° injuries
   a. Prognostic indicators – GCS, coma, post-traumatic amnesia
2. Clinical manifestations:
   a. Cognitive deficits – decreased attention span, poor memory, poor judgement or planning, visual-perceptual and spatial dysfunction, dysphasia, agnosia, dyspraxia
   b. Behavioural changes – disinhibition, restlessness/agitation, emotional lability, violence and aggression

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3. Management – specialist, nurse, PT, OT, SLT, SW, neuropsychologist, other therapists
   a. Environmental and behavioural interventions including mobility training, self-care activities, facilitating communication and cognition, goal setting
   b. Medication – mood stabilisers (Tegretol), SSRIs, psychostimulants (methylphenidate)
   c. Outcome measures – Glasgow outcome scale, disability rating scale, functional independence measure

4. Prognosis:
   a. Complications – swallowing, speech, seizures, spasticity, post-traumatic hydrocephalus, heterotrophic ossification, endocrine, autonomic disturbance
   b. 80% mild injuries return to work (10% of moderate to severe injuries)

Spinal cord injuries have an annual incidence of 30-32 per 1,000,000, and a prevalence of 700-900 per 1,000,000. Most (80%) patients are between the age of 16 and 14, and males are four times as likely to have spinal cord injuries. The main causes are RTCs, falls, violence and sports injuries.

1. Assessment – motor/sensory, complete/incomplete, ASIA impairment scale, other systems
2. Functional expectations – depend on the level
3. Complications – spasticity, heterotrophic ossification, deafferentation (central) pain, post-traumatic syringomyelia
4. Prognosis:
   a. Complete (ASIA-A) – no recovery within 3 months, you’re screwed
   b. Incomplete (ASIA-B,C,D) – recovery in 3 months, additional until 12 months

Amputation is the loss of a body part, typically lower limb (80%) and upper limb (15%). Most are due to vascular (DM), traumatic, malignant or congenital causes – note that 50% of diabetic amputees lose their other limb within 5 years. 2-year survival for elderly bilateral amputees is also <50%.

1. Preoperative – psychological / physical preparation, prosthetic suitability
2. Postoperative – wound care, diet, RRD/bandaging, strength exercises, ADLs, pain
3. Postprosthesis – gait retraining, mechanical issues, follow-up – malfunctioning/replacement

Other Aspects of Rehabilitation

Physiotherapy:
1. Respiratory
2. Mobilisation
3. Functional tasks
4. Recommendations
5. Preventing secondary complications
6. Mobility for discharge

Occupational therapy aims to assess a person in their task performance in activities of daily living including self care, household tasks, interests and leisure activities, vocational tasks. Note that everyone is unique and performs tasks in their own way with their own values and beliefs – they often have different roles and habits they need to be aware of.
1. Acute – functional assessments and assessment for physical function, sensory function and cognitive function
2. Long-term – close liaison with other members of the MDT, ongoing support

Speech language therapy aims to:
1. Ensure patient safety – safety of po intake (food consistency), need for non-oral feeding
2. Determine nature of communication deficits and method for team/family to communicate with patient
3. Patient, family and team education

Everything else is, quite frankly, extraneous. You should know what these people do, and be more than able to bullshit what they need to do in a clinical scenario.

Note that while it’s probably useful to skim through the geriatrics handout material once, the rehab material is fucking useless. Grrr!
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PALLIATIVE CARE (NOT EXAMINED, JUST HERE FOR CONVENIENCE)

Palliative care is the active total care of people who are dying from active, progressive diseases or other conditions when curative or disease-modifying treatment has come to an end. Palliative care services are generally provided by a multidisciplinary team that works with the person who is dying and their family/whanau. It:

1. Affirms life and regards dying as a normal process
2. Aims neither to hasten nor to postpone death
3. Aims to provide relief from distressing symptoms
4. Integrates physical, social, emotional and spiritual aspects to attain acceptable quality of life
5. One more objective, but the slide flashed too quickly. So settle for four.

Historical aspects:
1. Hospice origins – Christian institutions (shelter and hospitality to Pilgrims)
   a. 1800s – French “Calvaires” – Catholic homes for the dying
   b. 1897 – Out Lady’s Hospice Dublin – Sisters of Charity
   c. 1900 – St Joseph’s London – home for the dying poor
   d. 1967 – St Christopher’s Hospice London

   1. Founded by Dame Cicely Saunders “Modern Hospice Movement”
   2. “We need to encourage the attitude which conveys to the dying person – you matter to the last moment of your life, and we will do all we can to help you not only to die peacefully, but to live until you die.”

2. Modern hospice developments:
   a. Stand-alone hospice
   b. Designated beds within a general hospital
   c. Palliative care consultation service in general hospital
   d. Comprehensive community care programmes

Practical issues:
1. New Zealand has a mix of the above – often community initiative and ownership
   a. Palliative care – core health service
   b. Palliative care strategy 2001
   c. Palliative care medicine – recognised by NZMC as a vocational group in 2001
2. Effective palliative care requires:
   a. Active, aggressive management of suffering
   b. Team approach
   c. Recognising death as a natural closure of life
   d. Coordinated transition from treatment service to palliative approach
   e. Broadening concept of “successful” care
3. Useful questions:
   a. “How comfortable are you?”
   b. “How are things going for you today?”
   c. “What is worrying you the most at this time?”
   d. “How are you coping with what is happening to you?”
   e. “Is there anything further about you illness you would like to know?”
   f. “Are there things about the later stages of your illness you want to discuss?”
   g. “How in control do you feel about what is happening to you?”
   h. “How at peace are you about what is happening to you?”
   i. “What are your biggest concerns about your family and friends?”
   j. “Is there anything in the way you are being treated that is undermining your dignity?”

Opium is the dried or partly dried latex obtained by incision of the unripe capsule of Papaver somniferum. It has a strong characteristic odour, bitter taste and contains not less that 9.5% anhydrous morphine. It is used a hell of a lot in palliative care, and it would probably be useful to know more about it and other medical issues than all this other psychobabble. Grrr!!