Overview

Welcome to the Department of Geriatrics

The Health Care of Older People attachment is based at one of Waikato, Rotorua, Auckland, Waimate or Counties Manukau Campuses. You will be notified of your ward allocations on the first day.

Older Persons’ Health

The Older Persons’ Health area comprises Geriatric Assessment, Treatment and Rehabilitation (in-patient) Services, liaison services to other inpatient department and to emergency units, a variety of community based services for older people, and Mental Health Services for the Older Person.

Care of older patients forms a significant component of general hospital/outpatient practice and, with the ageing of the population, the size of this component will increase. It is therefore important that all doctors are confident and competent when dealing with older people.

It is important to understand that illness in older people may present in atypical and non-specific ways. Presentations such as falls, acute confusion, incontinence, failure to cope and taking to bed are the rule rather than the exception. Older people with such presentations need meticulous history, examination and work up.

The aim of “Rehabilitation” is to restore to the rule rather than the exception. Older people incontinence, failure to cope and taking to bed are an important event. Family meetings are often held prior to discharge.

Domiciliary assessment by social worker, community gerontology nurse or doctor and community rehabilitation are an important part of the Unit’s activities. Follow-up visits are also a part of the Unit’s activities, particularly to ensure that people are managing well at home.

Community rehabilitation in the patient’s own home is more possible. Every inpatient has a daily programme with treatment from appropriate health professionals such as occupational therapist, physiotherapist, speech language therapist and dentist. Assessment and treatment of mobility and upper limb function is coupled with assessment of cognition, daily living activities, and assessment and treatment of speech and swallowing disorders. Clinical Pharmacists assigned to the wards are an increasingly important part of dealing with polypharmacy. Some units may also have psychologist assessment available.

Working with Older People

Older patients come into the Unit for treatment of illness, advice and assistance about appropriate levels of care. Rehabilitation assists them to function better in their environment.

If people tire easily and may take longer for activities such as bathing, meals, etc. You may be frustrated by not being able to spend time with your patient because he/she is at occupational therapy, physiotherapy, or having an x-ray. If they are having therapy, go with them and find out what is involved. If they are very tired, come back another time. It may be best to examine one physical system at a time and the whole examination may sometimes take several visits. Spend time getting to know your patients, they will appreciate your efforts.

If you are having difficulty getting access to patients, see the Clinical Nurse Coordinator first to ask for a special time.

Attitudes and skills

Positive attitudes and skills of professionals working with older adults include being empathetic, patient and respectful with working with older adults include being empathetic, patient and respectful with positive attitude and skills of professionals working with older adults include being empathetic, patient, respectful, and skilled. Positive attitudes include being empathetic, patient, and respectful. These skills are essential for effective communication and understanding the needs of older adults.

Poor staff attitudes to older people can adversely influence the standard of treatment and care they receive. It is important that older people are not considered an imposition or inappropriate admissions. In particular, labels such as “social admissions” are never used. Instead, social admissions have a high morbidity and mortality, and are often a consequence of growing older. Older patients are not considered an imposition or inappropriate admissions. In particular, labels such as “social admissions” should never be used. Such social admissions have a high morbidity and mortality, and are often a consequence of growing older.

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Disclaimer

Although every reasonable effort is made to ensure accuracy, the information in this document is provided as a general guide only for students and is subject to alteration. All students enrolling at the University of Auckland must consult its official document, the current Calendar of the University of Auckland, to ensure that they are aware of and comply with all regulations, requirements and policies.

We advise that the University of Auckland is not involved in the employment of completing health professional students and can make no guarantee if post-qualification registration or employment in New Zealand or any other country.

For an updated version please refer to the Department of Medicine on: www.fmhs.auckland.ac.nz/som
Assessment Treatment and Rehabilitation (A & R) Units

Aims:
- Continue to consolidate your skills in history taking, examination, problem orientation and management.
- See common problems in geriatric medicine, e.g. stroke, falls, confusion, incontinence, chronic illness and appreciate altered presentation in older adults.
- Begin to work with the rehabilitation team.
- See the range of domiciliary and institutional services outside the public hospital.
- Gain confidence with, and respect for, older people, i.e. coping with deafness, loss of memory, feelings about ageing, dying etc.
- Ensure the University educational learning objectives (detailed on page 6) are completed.

Requirements:
In contrast to most medical runs, there is no miniCEX in geriatrics. During the four week attachment each student will be attached to one ward in the Geriatrics (A & R) Unit and is expected to complete the following:

A. Rehabilitation Case
Our aim is for the student to become aware of the impact of illness on a person’s activities of daily living. In addition to a full medical clerking (history and examination NOT including a rectal examination), the following format for writing up a Rehabilitation case has been developed:

Problem List
1. List the patient’s problems and diagnoses, with the most serious at the top.
   - Please include dates, as appropriate.
   - A sentence or two may be required to briefly elaborate on the problem.
   - Any medications the patient is taking, as management for this problem should be mentioned here.
2. Fill out a MoCA (Montreal Cognitive Assessment) or other cognitive screening instrument and Activities of Daily Living Form (see later in Handbook).
3. Comment on what each therapist has contributed to the management of your patient in detail, i.e. Physiotherapy, Occupational Therapy, Speech Therapy, nursing and social work and where appropriate the dietician, cultural support worker and pharmacist contributions.
4. Briefly describe your patient’s social situation, and then take all the foregoing information into account, briefly state your opinion of their prognosis, giving your reasons. This is complex and (often) difficult and you may need to discuss this with the registrar or consultant before committing your thoughts to paper.
5. Explain briefly on how the terms (1) impairment, (2) activity limitation (disabilities) and (3) participation restriction (handicap) are relevant to your case.

The case report will need to be submitted prior to your ward supervising consultant before the completion of the attachment.

The length of the report will somewhat depend on the complexity of the individual case, but in general should be between 1500 and 2000 words.

B. Student seminars
For some topics students will lead a seminar, for other topics seminars will be led by Consultants or other Health Professionals. The seminar topics will vary in the various hospitals, but potential topics may include:
- Ethics in geriatric medicine
- Frailty
- Falls (and immobility)
- Incontinence (faecal and urinary)
- Delirium
- Dementia
- Osteoporosis
- Stroke
- Elder Abuse
- Nutrition
- Pharmacology

The presentation should provide the basis for a group discussion, which all students and the Consultants can contribute. A good aim is for the presentation itself to be approximately 30 minutes, allowing 10 minutes or so for group discussion.

Include a case if possible as this enhances learning and discussion opportunities for the group. The aim is to provoke discussion, which will help us all learn, rather than test your academic ability.

Please check for the topics and the times on your timetable.

Student Seminar Learning Objectives

Ethics
By the end of the seminar, with emphasis on the understanding of patient autonomy, students will be able to:
1. Describe the main issues encompassing adherence to ethical practice principles, and in particular to patient autonomy
2. Describe how to assess a person’s capacity to make decisions
4. Be able to describe what advance directives, advance care plans and DNR orders are
5. Demonstrate understanding of the Health and Disability Commissioner (HDC) Code of Rights, in particular use of Right 7

Falls
By the end of the seminar students will be able to:
1. Provide a working definition of frailty and sarcopenia
2. Describe adverse consequences associated with frailty
3. Describe the prevalence of frailty in a community dwelling, and b) hospitalised older adults
4. Describe different tools available to screen for frailty
5. Describe key components of frailty management

Pharmacology
By the end of the seminar students will be able to:
1. Describe briefly the main differences in pharmacokinetics in older adults
2. Describe briefly the main differences in pharmacodynamics in older adults
3. Describe why adverse drug reactions are more common in older adults
4. Describe the two definitions of polypharmacy
5. Describe the factors affecting medication compliance in older adults

Urinary Incontinence
By the end of the seminar students will be able to:
1. Describe basic anatomical structures and neurological control of voiding
2. List five potentially reversible causes of urinary incontinence
3. Describe how to assess a patient with urinary incontinence
4. Name the four types of chronic urinary incontinence
5. Outline management for each of these four types

5. Describe key components of frailty management

Delirium
By the end of the seminar students will be able to:
1. List at least five risk factors for delirium
2. List ten common causes of delirium
3. Name five differences between delirium and dementia
4. Describe how to assess a patient with delirium
5. Outline key aspects of management

Dementia
By the end of the seminar students will be able to:
1. Discuss the differential diagnosis of cognitive impairment
2. Describe how to make a diagnosis of dementia
3. Name the five common types
4. Outline key aspects of dementia management

5. Describe the principles of management including appropriate referral pathways

C. Clerking a new patient directly into hospital notes
In your clinical years it is vital that you get as much practice as possible at taking histories, performing clinical examinations, and in presenting histories and examination findings to your (usually senior) colleagues. There are essential skills in medical practice, and lack of adequate ability in these areas (in turn usually due to inadequate practice) is not infrequently a cause of students having problems with end-of-year assessments (e.g. OSCEs).

Thus, as part of the ward assessment, we expect you under the supervision of the house Office and/or Registrar to clerk a new patient (admission) into the notes at least once per week (full history and examination) and present that patient to either the registrar or Consultant on ward round

D. Attendance for teaching and assessment sessions
Teaching sessions by Consultants, Registrars and other Department staff as shown on the timetable given. There will be no mini-CEX examinations in the 4th Year geriatrics attachment in 2015.

Attendance at all formal teaching sessions and seminars is mandatory.

E. Attendance of other sessions
Attend x-ray conference and Ward Conference or clinics where appropriate, and if necessary, give a brief summary of your patient.

F. Home visit
Visiting older people in their own homes is an important part of our service. Home visits are done by Social Workers, Occupational Therapists, Physiotherapists, Community Gerontology Nurse Specialists, Registrars and Consultants.
Visiting an older person in their own home is a privilege. It allows an unbiased assessment and an opportunity to assess the environment and to talk to relatives and carers. Home visits are particularly useful for people who have cognitive impairment, who are suspicious or who are frightened by the unfamiliar environment of a hospital.
You will be expected to participate in at least one home visit. Completion of a home visit represents part of the requirements for this run. Please organize this at the beginning of the run.

G. Allied health experience
In addition to the Home Visit above, attend therapy sessions (e.g. OT, PT, Speech) with your patient.
We strongly advise that you read all of the textbook that will be loaned to you for the duration of the attachment. Don’t worry – it is not too long and is very ‘user-friendly’.

### Guidelines for registrars

#### General medicine


Clinical Examination - a systematic guide to physical examination. Talley, N.J. & O’Connor, S.

### Medical student teaching

Each of the wards has four or five Year Four Medical Students allocated to it for the four week attachment. Each student is expected to see as many patients as possible during this time.

The students are expected to complete one long case during the attachment. They are also expected to complete one Multidisciplinary discussion.

By the conclusion of the run it is hoped that all students will be conversant with history taking and examination of all systems. Planning their cases (to be checked directly into the patient notes under registrar/HO supervision - see page 13) and long case study (to be handed into the supervising consultant by the end of the attachment) should allow this to be achieved.

The responsibilities of the Registrar are:

1. To helpform the students so that they feel welcome on the ward
2. To guide the students to patients with interesting symptoms and signs
3. To provide two bedside tutorials of 60 minutes per attachment - each ward has its own time slot for this, one of which is for students from two wards
4. To help them feel involved with routine ward activities, students should assist with ward admissions if time is available
5. To notify the co-ordinator for your unit and/or Professor Connolly (martin.connolly@waitematadhb.govt.nz) of any student who may be experiencing difficulties in their clinical work or poor attendance

We know from experience that the Registrar can greatly enhance the students’ ward experience. Remember the House Officer and Trainee Intern are meant to do on the wards.

### By the end of the clinical attachment students should be able to:

- **Domain: Applied Science for Medicine**
  1. Apply key basic science principles to the evaluation of patients presenting with common conditions in older people.
- **Domain: Clinical and Communication Skills**
  2. Evaluate older patients presenting with a range of common conditions and problems.
    - Elicit from patients with multiple medical problems a logical and comprehensive history
    - Assess the environmental and social issues that contribute to the medical issues
    - Undertake a detailed multidisciplinary examination with special emphasis on the cognitive, locomotor and neurological components
    - Demonstrate respect for and confidence with older people and problems they may face
  3. Formulate logical problem lists for a range of older patients.
    - Develop a differential diagnosis list that encompasses the multiple medical issues of a patient
    - Determine the most likely working diagnosis
    - Evaluate and select tests that will confirm or alter the working diagnosis
    - Interpret simple laboratory and radiology tests
  4. Prepare basic management plans that include medical, rehabilitation and social issues.
    - Apply best available evidence to solve clinical problems
    - Identify issues of multiple medications
    - Identify issues specific to Māori patients
    - Identify and discuss areas of controversy in patient management
  5. Explain the multidisciplinary team approach that is used in medical and rehabilitation for the older patient.
    - Summarise the range, together with their respective roles, of domiciliary and institutional services outside the public hospital
    - Explain how and when these services need to be incorporated into a management plan for the elderly patient
    - Outline the needs assessment process used with older patients

### Domain: Population Health

8. Suggest evidence based public health approaches that would reduce the burden of medical diseases in older people

- Outline the medical conditions that significantly contribute to morbidity in the New Zealand context
- Identify the patients’ experienced episodes of care in the wider context of the community and the health system

Older people are diverse yet some have a reduced ability to cope with environmental challenges. This results in a unique set of presentations that can easily be dismissed but which are often remediable. Many of their problems can be helped. During this run we would like you to gain confidence and skills in interviewing and examining older patients. This includes learning how to communicate with and take a history from patients who may be visual, hearing or cognitively impaired. We would like you to learn about common medical problems in older people and how these interact with their environment and social circumstances. You will have an opportunity to see how multiple problems can interact and how difficulties arising from chronic illness can be treated using a multidisciplinary approach.

Above all we would like you to be enthusiastic about seeing patients, to be self motivated and to enjoy the attachment.
Helpful hints to achieve learning objectives

You are advised to discuss your assessment with your supervising consultant towards the end of the run.

To pass the run
To pass the run, you must pass all three assessments: ward assessment (including a home visit — see below), case history and seminar presentation.

If you receive a ‘borderline pass’ for one or more assessments you will be awarded a ‘borderline pass’ for the attachment overall. This means that you have passed the attachment as long as similar problems haven’t occurred, or don’t occur, in other attachments this year.

To achieve potential distinction
It is possible to achieve at ‘Distinction’ level in this run. This decision is made at the end of each run after the results of all work are available and the opinions of all relevant tutors considered.

Distinction is considered for students who have passed all objectives and have achieved at a distinction level in at least two of the three areas of the assessment, one of which must be the CBF form.

Geriatrics Prize
As of 2016 there will be an annual Geriatrics Prize of $500. The short list for the prize will be generated from nominations from each DHB (two nominations per year for the larger DHBs, and one nomination per year for the smaller DHBs). There will be no additional requirements for students on the short list. The Head of Department of Medicine and the Professor of Geriatric Medicine will judge the prize and will forward their recommendation to the Board of Examiners for a final decision.

Plagiarism
The University of Auckland will not tolerate cheating, or assisting others to cheat, and views cheating in coursework as a serious academic offence. The work that a student submits for grading must be the student’s own work, reflecting his or her learning. Where work from other sources is used, it must be properly acknowledged and referenced. This requirement also applies to sources on the world-wide web. A student’s assessed work may be reviewed against electronic source material using computerised detection mechanisms. Upon reasonable request, students may be required to provide an electronic version of their work for computerised review.

Resources

Highly recommended viewing is ‘Barbara’s Story’ (3 mins) as it covers dementia, delirium, ethics, advanced care planning and the experience of an older person in hospital. URL: youtube.be/UAx2MNj4v

Look at the seven specific Geriatric Medicine scenarios that are found on the MBChB portal. URL: www.fmhs.auckland.ac.nz/mbchb-portal

By using key words from the following case histories in the MBChB portal under scenarios, diagnoses, medicines and/or learning points, then you can access information that will enable you to answer the questions listed.

All these resources will enhance your learning and can be used in student seminars and ward discussions with your team.

Drugs

Drugs – Case history one
An 84 year old man is admitted to the Assessment, Treatment & Rehabilitation Unit with dizziness for 4 months and increasing difficulty walking for the last 3 months. He has been living alone and is finding it increasingly difficult to look after himself. He has had several falls in the last 3 weeks and his back has been painful after the last fall. He had been on no medication until hypertension was diagnosed 6 months ago.

Medication on Admission
- Prochlorperazine 5mg TDS
- Lisinopril 5mg daily
- Mucolipid (Levodopa/benzserazide) 60.5mg TDS
- Pantoprazole 150mg Q ID

Question
What role might his medications have played in his presentation?

Drugs – Case history two
An 81 year old woman is admitted to hospital with a dense right hemiplegia, dysphasia and a reduced level of consciousness. This has occurred suddenly 3 hours before. The cardiac rhythm on ECG is atrial fibrillation. Other than a recent chest infection she has been in good health.

Medications
- Warfarin according to INR
- Roxithromycin 150mg BD for 2 more days [total of 7 days]
- Frusemide 120mg mane
- Enteral 150mg mane

Question 1
What are the possible causes of her admission to hospital?

Question 2
What are the possible causes or precipitating factors of this woman’s presentation?

Drugs – Case history three
An 86 year old woman is admitted to an acute medical ward with fainting episodes. She also has shortness of breath and chest pain on exertion, and orthopnoea requiring 4 pillows. She has bilateral painful knees. There is a past history of stable angina.

Medication on admission
- Atenolol 100mg daily
- Naxapone SR 75mg mane
- Aspirin 150mg mane

On examination
She appears rather drowsy. Pulse is 45/min and regular. BP 90/50 (lying) and 100/50 (standing). She has a raised JVP, ankle oedema and crepitations at both lung bases. There is evidence of osteoarthritis of both knees.

On investigation
- Serum creatinine raised to twice the upper limit of normal

Question 1
What are the possible causes of her admission to hospital?

Question 2
How might her medications have contributed to these problems?

Drugs – Case history four
An 80 year old man attends his GP for follow up as requested after a recent hospital admission with congestive heart failure (underlying causes thought to be ischaemic heart disease and hypertension). He brings in his yellow medication card which states his discharge medications as:
- Aspirin 100mg mane
- Enteral 150mg mane
- Sildenafil 10mg mane
- Lisinopril 150mg mane
- Ilosafor 100mg mane
- Aspirin EC 100mg mane

Question 1
What questions should the GP ask at this stage?

Question 2
What are the important things to examine?

Question 3
What should the GP and the patient be monitoring now and in the future with this condition and this combination of drugs?
Falls – Case history one
An 80 year old woman is seen at the Outpatient Clinic for further assessment of her falls. They have been occurring for at least a year. She seems to go down without warning but doesn’t lose consciousness. Usually she is just walking along the street and her legs seem to give way. Once she is down she cannot seem to get up, although if someone helps her up she seems to be OK after standing for a short while. She has a past history of depression and her medications include nortriptyline 50 mg nocte and diazepam 5 mg nocte.
On examination there is evidence of osteoarthritis of both knees.
Question 1
What are the possible causes and contributing factors to her falls?
Question 2
What would be your approach to management of her problems?

Falls – Case history two
An 82 year old man is seen at the Outpatient Clinic for further evaluation of falls which have been occurring approximately once a week for 3 months. They occur without warning and do not seem to be brought on by anything in particular. He thinks he must lose consciousness as he tends to come to once he is falling. He cut his head last time and had no idea of when he is passing urine and at times seems to be constantly ‘something coming down’ when he passes a bowel motion, especially if she can feel something coming down when she passes a bowel motion, especially if she has to strain. The problem has been present for about 6 months and she is becoming afraid to go out to social activities in case she ‘embarrasses herself’.

Question 1
What is/are the likely cause(s) of the incontinence?
Question 2
What investigations would you consider appropriate?
Question 3
How might you manage her problem?

Incontinence – Case history three
An 84 year old woman is admitted to the orthopedic ward with a transverse fracture of the neck of the left femur. She was doing her Christmas shopping in a department store when she lost her footing on the escalator and fell to the bottom. She lives alone and normally manages without outside help. She has never been in hospital before and her only medication is quinapril 10mg daily for high blood pressure. She is taken to the operating theatre that night and the fracture reduced and internally fixed (a procedure that allows weight bearing immediately post op). Unfortunately, over the next 5 days, she does not readily mobilise post-operatively. Her knees give way and she clutches wildly at the nurses or physiotherapists assisting her attempts at mobilisation.

Question 1
What factors would suggest that this outcome is not consistent with her expected prognosis?
Question 2
What further information might be helpful from the staff of the rest home?
Question 3
What examination should the GP do on this visit?

Incontinence – Case history four
An 85 year old man comes to live in a rest home. He has Parkinson’s disease and can’t give a history herself. The staff tell you the problem has been present for about 4 months now and is getting worse. The faecal incontinence occurs perhaps 3 times weekly. It is getting to the stage where they cannot manage her because of this problem and they are recommending she move to long term hospital care.

Question 1
What are the likely causes of the faecal incontinence?
Question 2
What further information might be helpful from the staff of the rest home?
Question 3
What will you particularly check on examination?

Resources: Falls

Resources: Incontinence
Parkinson’s – Case history one
A 70 year old man has noticed he is physically slowing down. His balance isn’t as good as it was – in particular there seems to be a tendency to fall forward when walking. At times he is as if his feet are stuck to the floor. In addition there is a shake in his right hand, although this doesn’t seem to interfere with his function in this hand.

Question 1
What 3 of the 4 main features of Parkinsonism are demonstrated here?

Question 2
What other recognised features of Parkinson’s disease that you might ask about or look for?

Question 3
If this is Parkinson’s disease, what are appropriate management options to consider for this man at this stage?

Parkinson’s – Case history two
A 75 year old woman has a problematic tremor in her right hand that she feels has been getting worse for around 12 months. It is also present at times in the left hand and the jaw but she hasn’t noticed it in her legs. It feels as if her hands are weighted down. She has noticed that this makes it difficult to control the tremor’s effects. She also has difficulty rolling over in bed at night and her husband has to help her out of bed 2-3 times a night when she gets up to pass urine.

Medications
- Sinemet (levodopa/carbidopa) 125/250 i/d
- Bendrofluazide 2.5mg marw

Question 1
What is the ‘fidgeting and grimming’ and what is it due to?

Question 2
How might you alter the medication to minimise this but improve the Parkinsonian features (there are a number of options)?

Question 3
How might you alter her medication to specifically help her nighttime problems?

Parkinson’s – Case history three
A 75 year old woman has had Parkinson’s disease for 10 years. She presents with decreased mobility, falls and ‘fidgeting and grimming’. This is an inability to keep the limbs and head still which only occurs from time to time and is worst about half an hour after taking Sinemet. It is definitely different to her tremor and is noticed more by her husband than the patient herself. However, at these times her mobility is at its best. Later on, when her next tablet is due, she is very stiff and slowed up and it is at these times she is most at risk of falling. She also has difficulty rolling over in bed at night and her husband has to help her out of bed 2-3 times a night when she gets up to pass urine.

Medications
- Sinemet (levodopa/carbidopa) 125/250 i/d
- Bendrofluazide 2.5mg marw

Question 1
What is the differential diagnosis of the tremor?

Question 2
What do you particularly want to look at on examination?

Question 3
What medications could you consider to help control the tremor?

Parkinson’s – Case history four
A 78 year old man has had Parkinson’s disease for 8 years. He complains of becoming increasingly forgetful. His wife confirms this but also reports that he seems to be especially muddled at times and much clearer thinking at other times.

Medications
- Madopar (levodopa/benserazide) 125mg 5 times daily
- Benztropine 2mg BD

Question 1
What is the differential diagnosis?

Question 2
What are the management options for the most likely causes?

Ethics – Case history one
An 83 year old man is found to have cancer of the rectum. He has had moderate memory impairment with an MMSE 25/30. He has no other medical problems. He is very mobile (occasionally gets lost in town). The doctor feels that the cancer has not metastasised and that it may be curable. A colostomy would, however, be required. The doctor wishes to operate. You are the man’s 63 year old wife and next of kin.

Question 1
What should you do?

Question 2
And why?

Ethics – Case history two
An 86 year old retired school teacher has been referred to the Unit by a Public Health Nurse. The patient is a recluse who lives in a 210 square foot room. She is unkempt and the house is in gross disrepair. There are holes in the floor, two heaters with frayed electrical cords, most windows are broken and there is an outside toilet.

Every room shows considerable amounts of hoarded belongings including newspapers dating back 20 years, old furniture, rusting implements and rotting food in the refrigerator.

She is admitted and found to have an MMSE 28/30, interested in music and reading, and with no obvious physical disabilities. There is no history of alcohol abuse, but it is likely her nutrition has been poor. Her only relative is a great-niece who, like the neighbours, health department, social worker and general practitioner, feel she should be in a home. She refuses and insists on returning to her villa.

On the day of discharge, she is rung by her great-niece who, like the neighbours, health department, social worker and general practitioner, feel she should be in a home. She refuses and insists on returning to her villa.

Question 1
What should you do?

Question 2
What factors do you take into account in making your decision?

Ethics – Case history three
Mrs S has been in a Health Care of the Elderly ward for 3 weeks being “assessed” by all the disciplines. The conclusion by the doctors is that she has moderately advanced Alzheimer’s disease with significant loss of short term memory, impairment of judgment and lack of insight. Medicinal investigation has not suggested any other cause for her problems and she is otherwise a fit woman of 83 years. The nurses note she needs prompting to remember to do normal activities such as dressing and toileting. She will also put her clothes on in an unusual order if left to her own devices. She has a tendency to wander aimlessly during the day and has on two occasions had to be returned to the ward from the hospital grounds. The Occupational Therapist adds that she needs assistance to shower and did not cope at all well in the kitchen, even with making a cup of tea. She was endangering herself when attempting to use the stove.

Mrs S is adamant she is returning home to live. She cannot see any potential problems with this and will not contemplate a rest home which she sees as a “living death”. If any help is required she believes her daughter (long suffering, very worried about her mother and unable to say to her that she cannot help) will provide it.

The OT is adamant she is not safe to return home and should be “persuaded” to go to a rest home by whatever means are available (even legal), the nurses tend to agree about the potential lack of safety but feel her autonomous wishes should be respected.

Question 1
Do you agree?

Question 2
What are the ethical issues?

Question 3
What practical steps would you take towards sorting out the dilemma?

Ethics – Case history four
Mrs F – aged 75
She was admitted to hospital in January with increasing angina for six months and postural hypotension such that she was unable to cope at home. Last September, she was admitted with angina and syncope found to be due to intermittent bradycardia. A permanent pacemaker was implanted and she was discharged on anti-anginal medications. Two months later, she presented with symptoms of left ventricular failure requiring diuretic therapy.

On the present admission, she was experiencing 1-2 episodes of angina with minimal exertion and at rest, despite maximal anti-anginal therapy. Moreover, this treatment produced symptomatic postural hypotension. Attempts to reduce the medication resulted in aggravation of her ischaemic symptoms. She had a past history of recurrent vertigo, thought to be due to vertebro-basilar insufficiency as she had been restricted by mild techtonic ataxia prior to her current problems.

Her coronary anatomy does not favour stenting. She is admitted and found to have an MMSE 28/30, interested in music and reading, and with no obvious physical disabilities. There is no history of alcohol abuse, but it is likely her nutrition has been poor. Her only relative is a great-niece who, like the neighbours, health department, social worker and general practitioner, feel she should be in a home. She refuses and insists on returning to her villa.

On the day of discharge, you are rung by neighbours and the niece, saying she should not be sent home.

Question 1
What should you do?

Question 2
What are the ethical issues?

Question 3
What practical steps would you take towards sorting out the dilemma?
Patient autonomy, competence and choice

All adults irrespective of their age have the autonomy to make decisions for themselves. The law assumes that they are competent to do so until proven otherwise. In law the definition of competence implies the ability to understand and manipulate information, to communicate a choice, and express decisions that follow rationally from the information given taking into account the person’s values and circumstances. Just because a person reaches a decision that you, as a ‘superior’ judge, might not agree with does not make them incompetent. The decisions that people reach depend on their values, culture, desires, personal history, etc. People are allowed to do ‘dangerous things’ without any assumption of incompetence (i.e. Formula One racing driving, hang gliding or even playing rugby).

Scenario one

Mr Smith is an 88 year old man who was found lying on the floor in his study in March. He is confused. He is admitted to hospital and found to be hypothermic and in congestive cardiac failure. He is very thin and appears biochemically to be malnourished (low calcium and albumin, mild iron deficiency anaemia, very low serum folate). He is warmed up slowly and his heart failure responds to standard medical treatment. He eats well on the ward and his delirium gradually resolves over 10 days.

During this time you learn from his GP and his estranged son who lives in Australia that Mr Smith is extremely rich but does not like spending money. He has tens of thousands of dollars in bonus bonds and a large bank account. He does not heat his home because of fear of spending money. He has suffered multiple falls in the last six months and his GP feels that these are due to poor lighting and loose carpets in his home. An occupational therapy assessment confirms that he is safe to mobilise on the wards but he has severe environmental dangers and overall agrees that he is at risk of further falls.

His MoCa conducted 11 days after admission in 19/30. He tells you that he wishes to go home and that he does not wish any environmental modification (carpet safety, lighting, etc) to be carried out. He tells you that he will not take his diuretics and ace inhibitors once he goes home. He declines to allow you to contact his son further. He declines any offer of social service intervention (carers, meals on wheels, etc).

He is very confused. He has suffered multiple falls in the last six months and his GP feels that these are due to poor lighting and loose carpets in his home. An occupational therapy assessment confirms that he is safe to mobilise on the wards but he has severe environmental dangers and overall agrees that he is at risk of further falls.

If he tells you that he knows that he will be perfectly safe because he has contact every day with the Angel Gabriel who appears to him in a bowl of wetties in the morning and assures him of his personal safety despite what the doctors say, then you would probably wish to change your view regarding his competence.

In order to assess capacity/competence a ‘trigger’ is needed.

Ordinarily a person does not have to justify his or her decision and thus there must be a valid reason to assess competence. This is an intrusive thing to do. Legally, any registered health practitioner whose ‘scope of practice’ includes the assessment of competence’ can decide. In practice this usually means the SMO responsible for the care of the patient asked if necessary by geriatricians, psychiatrists, lawyers, social workers. On some occasions further specialist advice, for example from speech and language therapists, may be required.

Competence does not have to be ‘complete and absolute’ and does not have to be global. Just because a person has cognitive impairment or a psychiatric illness does not automatically mean that they are incompetent. In an emergency a physician can treat a patient without gaining formal consent. In all other circumstances consent must be gained but this is very often tacitly assumed following discussions and information exchange between doctors and patient.

Scenario three

An 88 year old woman with a past history of fractured neck of femur (two years previously), pernicious anaemia (on B12 therapy) and controlled hypertension (on an ACE inhibitor) is admitted to an acute medical ward following a fall at her next home. She suffered only minor bruising but was unable to summon help in the night and had spent 3-4 hours lying on the floor. Her MoCa on admission was 29/30 (she thought it was 27th February when in fact it was 28th) and on examination she is frail but otherwise well. She is unable to stand unaided, and only able to walk a few paces with her 4 wheeled walker, saying that she is frightened to mobilise in case she has another fall.

In accordance with routine ward policy she is asked her wishes about resuscitation and replies quite adamantly that in the event of a cardiac arrest she would wish to be resuscitated. The day after admission she speaks with her immediate family (two sons) who support her view on this. A ‘Do Not Resuscitate’ (DNR) order is attached to her notes.

She initially progresses well with physiotherapy, but on the morning of the 3rd day after admission she develops an acute confusional state (delirium) with an MoCA of 9/30, a pyrexia (38.4°C), a tachypnoea (26/minute), a systole rate of 126/minute, blood pressure 114/69mmHg, and oxygen saturations of 88% on air. Chest radiograph shows left basal consolidation.

You treat her with antibiotics, slow intravenous (IV) fluids and oxygen at 2 litres per minute via nasal prongs. Her ‘vital signs’ improve but she remains very confused.

Her sons, who arrive for routine visiting in mid afternoon, ask to see you and say that they wish you to stop the antibiotics, IV fluids and oxygen at 2 litres per minute via nasal prongs. Her ‘vital signs’ improve but she remains very confused.

Her sons do not have any legal or indeed any ethical right to deny her treatment. This would be the case even if they were holding enduring power of attorney for welfare as an enduring power of attorney does not give the attorney (the person acting on behalf of the individual) any rights to withhold or withdraw lifesaving treatment. More generally the attorney is legally bound to act in the best interests of the individual at all times. It is quite likely that the nurses in this situation simply do not understand the medical details and have seen their mother very confused and clearly unwell they are very distressed and assume that she is likely to die. You thus have to have a very detailed conversation with them giving them the medical outlook in a sympathetic and empathetic manner. It is more likely than not that they will then agree that you continue treatment and indeed encourage this. If they insist in their wish to have treatment withdrawn you would decline this request. To withdraw treatment in this situation would not only be unethical but would also be illegal and might result in significant consequences for you as a doctor (including being reported to the Medical Council, being removed from the medical register and possibly being reported to the police for manslaughter or even murder if the patient died).

The only person able to decline medical treatment is the patient themselves (providing they have capacity or an advanced directive).

Clearly the views of family must be ascertained and taken into consideration when making any decision, but the family does not have a “right” to decline intervention on behalf of their loved one.

Relatives or those holding Enduring Power of Attorney are not able to sign DNR orders or advanced directives in New Zealand or Right 7 subsection (4) of the HOD Code of Ethics gives guidance for those who lack capacity. Where a person is not competent to make an informed choice to give informed consent, and no person entitled to consent on behalf of the consumer is available, the provider may provide services where -

a. It is in the best interests of the consumer;

b. Reasonable steps have been taken to ascertain the views of the consumer; and

c. Either -
   - if the consumer’s views have been ascertained, and having regard to those views, the provider believes, on reasonable grounds, that the provision of the services is consistent with the informed choice the consumer would make if he or she were competent;
   - if the consumer’s views have not been ascertained, the provider takes into account the views of other suitable persons who are interested in the welfare of the consumer and available to advise the provider.

Every consumer may use an advance directive in accordance with the common law.

Resources: Patient autonomy, competence and choice

Resources: Enduring power of attorney

Enduring power of attorney (EPOA)

Enduring Powers of Attorney arecommon in the New Zealand jurisdiction. They are a form of advance directive and must be specified on the correct form in the presence of a solicitor and witnessed. They assign authority to another person (the ‘attorney’ - often but not always a relative) to manage the affairs in the event of the patient losing capacity (permanently or temporarily) to do so themselves. There are two types of power of attorney for property, and for personal care and welfare (including medical decisions).

The enduring power of attorney must be assigned while the person is still competent (beware of doing an enduring power of attorney in a person with advanced dementia that appears to have been signed by the person three months earlier).

Enduring power of attorney has no effect whilst the person is competent (i.e. like a will whilst the person is alive).

It must be accepted by a relevant health practitioner certifying lack of capacity and recommending the use of EPOA. In practice this is usually a consultant/SHO. Once activated the powers of attorney are wide but not all encompassing, i.e. they do not give the attorney ‘carpe blanc’.

In particular they do not give the attorney the right to refuse consent to the administering to that person of any standard medical treatment or procedure intended to save that person’s life or to prevent serious damage to that person’s health. The attorney is bound to act in the best interests of the person at all times. If a medical practitioner believes that the attorney is not acting in the person’s best interest they not have the right not to act according to the attorney’s instructions but in fact are legally bound not to do so. It is essential when acting according to an attorney’s wishes that the EPOA document is sighted and a copy kept in their notes.

Sources of information/websites:

Further sources of information regarding ethics, patient autonomy, competence and legal issues are listed below

www.medsoc.org.nz

www.advancedcareplanning.org.nz

www.ageconcern.org.nz

www.judiciary.govt.nz/family-justice (under court matters)

www.publiclit.co.nz

www.lawsoce.org.nz

www.publiclit.co.nz

www.hdc.org.nz

www.ageconcern.org.nz

www.advancecareplanning.org.nz

www.medsoc.org.nz

www.hdc.org.nz

www.advancecareplanning.org.nz

www.patient autonomy, competence and choice

www.patient autonomy, competence and choice

Resources: Patient autonomy, competence and choice

Resources: Enduring power of attorney
Stroke: an overview of management

Epidemiology
Stroke is one of the commonest causes of disability in the western world. The incidence of stroke in New Zealand is 1.3 / 1000 persons and increases dramatically with increasing age. Approximately 75% of all strokes occur in the over 65s and 50% in the 75+ age group. The age adjusted incidence of stroke is remaining static in NZ, but with the ageing population, the absolute numbers of strokes is expected to increase.

Clinical presentation
Each stroke is different. The effect on an individual depends on their co-morbidity, type of stroke, age, social supports and their pre-existing personality and beliefs.

“Stroke is NOT just a motor illness”
Whilst many present with a classic hemiplegia, or lesser degree of motor weakness, this is not always the case. Indeed the person’s disability (activity limitation), and handicap (participation restriction), may be more related to their other stroke related deficits, such as hemianopia, visuospatial problems or dysphagia, rather than their motor weakness.

A person with a stroke may present with one or several of the following symptoms / signs: hemiplegia, hemiparesis, hemianopia, hemianopsia, hemisensory disturbance, epilepsy, dysphagia (or pneumonia secondary to this), language difficulties, falls, acute confusion, loss of consciousness (uncommon without other focal findings) or difficulty walking.

Definition of Stroke and TIA:
The WHO definition of stroke has three key components:

1. Acute onset
2. Focal neurological deficit and
3. The above are consistent with a single vascular territory insult.

A Transient Ischaemic Attack (TIA) is traditionally defined as an event having all 3 components above, but the symptoms disappear in less than 24 hours. In reality, most TIAs last only a matter of minutes and are at most 1-2 hours. Most of those lasting longer are small strokes and cause permanent neurological loss, even if clinical symptoms disappear. By most 1-2 hours. Most of those lasting longer are small strokes and cause permanent neurological loss, even if clinical symptoms disappear.

Risk factors for Stroke
These include:

- Increasing age
- Male sex
- Atrial fibrillation (if increasing importance with increasing age)
- Smoking
- Hypertension
- Ischaemic heart disease
- Family history of stroke
- Peripheral vascular disease
- Diabetes mellitus
- Carotid stenosis
- Rheumatic vascular disease
- Obstructive sleep apnoea

The most important treatable risk factors, from a public health perspective, include hypertension, atrial fibrillation and smoking. Carotid stenosis, hyperlipidaemia, oestrogen use and vascular disease may also be important and treatable at an individual level.

Stroke care can be arbitrarily divided into three phases:

1. Acute
2. Rehabilitation
3. Adaptation and adjustment

There is considerable overlap between these phases and in reality, rehabilitation and adaptation/adjustment phases begin on day one. Moreover for teaching purposes, it is useful to artificially separate the phases.

1. Acute Phase

The aims of this phase include at least:

a. Accurate diagnosis
b. Acute treatment to reverse (and/or limit) the neurological damage
c. Prevention of complications
d. Nursing care for dependent patients

- Begin rehabilitation, including provision of information about stroke to patients and their family.

(b) Acute treatment

Acute stroke treatments aim to:

1. Reverse the underlying pathological process and/or
2. For ischaemic strokes, limiting the brain dysfunction by salvaging neurones in the ischaemic “penumbra” zone.

Proven strategies include the following:

a. Aspirin: To reduce progression or reverse the arterial occlusion. Aspirin has been shown to have a definite benefit when used acutely within 24-48 hours.
b. Thrombolytic agents (Tissue plasminogen activator - tPA) To lyse the intra-arterial thrombus and restore cerebral blood flow. tPA: Benefit with early treatment (within 4.5 hours from onset of symptoms). Thus “Brain attacks” (strokes) need the same urgency of response as “Heart attacks” (MI). Strategies such as calcium channel blockers, corticosteroids, n-methyl D aspartic acid (NMDA) antagonists and neuroprotective agents have not been shown to work as yet.

(c) Complications

Complications (both neurological, and as a result of immobility) need to be anticipated and prevented. This task begins during the acute phase, and continues into rehabilitation and adaptation phases. Some of the complications include:

- Immobility and deconditioning
  - Pneumonia (may be aspiration pneumonia)
  - aspiration pneumonia may be avoided by early identification and appropriate management of those with impaired swallowing (gag reflex is NOT predictive of swallowing ability)
  - Dysphagia
  - Incontinence
  - both unstable bladder and urinary retention need to be considered
  - Dehydration
  - ensure adequate hydration (may not be able to reach glass of water)
  - and nutrition. The presence of dysphagia may require alternative means of feeding and fluid intake
  - Under nutrition and muscle catabolism
  - Pressure sores
  - regular turning, early mobilisation, position changes and low pressure mattresses help
  - Loss of dignity/morale/hope
  - Death
  - Depression
  - Constipation - pre-empt with regular fluids, laxatives
  - Pulmonary embolus/DVT
  - early mobilisation and aspirin (ischaemic strokes only) are effective. LMWH reduces risk of DVT/PE, but this benefit is negated by an increased early risk of haemorrhagic transformation. LMWH should be considered on a case by case basis, and reviewed again after 7 days if leg pain or other risk factors persist.
  - Loss of independence by becoming “institutionalised”

<table>
<thead>
<tr>
<th>Table 1: Types of stroke</th>
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<tr>
<td><strong>Type</strong></td>
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<tr>
<td>TACI</td>
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<td>INO</td>
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<td>LAD</td>
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<td>PCD</td>
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These categories are helpful for both prognosis and for determining risk of recurrence.

At the bedside, it is not possible to differentiate between cerebral infarction and haemorrhage (80-85% of all strokes are infarcts, 10-15% primary intracerebral haemorrhage, and 5% subarachnoid haemorrhage) – urgent imaging of the brain is required. Standard care would be CT Head within 4 hours as a minimum. CT Head is a mandatory prerequisite for thrombolysis therapy.
Secondary prevention of further strokes is important. These need to be tailored to the individual, their progress, their comorbidities and their stroke type. However key measures to be considered include:

- Lifestyle measures
  - Stop smoking
  - Regular exercise
  - Maintain a healthy weight, avoiding obesity
  - Avoidance of excess salt intake
- Medications
  - Blood pressure control
  - Aspirin, or other minor antiplatelet agents (e.g. dipyridamole, clopidogrel)
  - Carotid imaging (e.g. Duplex ultrasound) for carotid stenosis in selected patients
  - Warfarin or Direct Oral Anticoagulants (DOAC), eg Dabigatran, for prevention of deep vein thrombosis

Recovery takes TIME. The natural history of most stroke deficits is that impairments tend to improve spontaneously over time. Some spontaneous recovery occurs, with most occurring within the first 12 weeks. (Figure 1)

**WHO Classification of Functioning (previous impairment, disability and handicap) – definitions**

Impairment – refers to the damage or dysfunction of an organ or part of the body e.g. hemiplegia or cognitive heart failure

Activity limitation (previously termed Handicap) – refers to the way an impairment (e.g. hemiplegia) affects the function of an individual (difficulty walking is one disability caused by hemiplegia).

Participation restriction (previously termed handicap) – refers to the way in which the combinations of impairments and disabilities interfere or impede an individual from carrying on their normal lifestyle (e.g. hemiplegia causes less additional handicap to an already bed bound person with severe arthritis than a previously fit transverse amputee).

The aim of stroke rehabilitation is to get the patient back to his/her original level of functioning (or better) if this is not possible, it is to minimise their disabilities. This is done using a multi-faceted approach which aims to:

1. Minimise their impairments (e.g. treat their hypertension),
2. Maximise activities (e.g. regain normal balance and gait through physiotherapy),
3. Maximise participation (e.g. reduce social isolation from no longer being able to drive a car, by provision of taxi vouchers, or involvement in local bridge club).

Disabilities may be overcome by retraining to do tasks normally (e.g. physiotherapist helping patient to regain normal walking pattern), the provision of aids or “tools” (e.g. walking with use of walking stick and high caliper) or by adaptive approaches (e.g. minimising the impact of not being able to walk by, use of a self propelled or electric wheelchair). These varied approaches to disability will be tried at different stages of rehabilitation, depending on progress to date and the amount of residual disability expected.

The adaptation phase is probably the most important to the patients and their families, but least understood by doctors. Patients have to overcome residual disabilities, and try to live in the world outside the sheltered hospital environment. It takes months or years for people to adapt, both physically and psychologically, to their new level of functioning.

Some techniques used in the recovery phase may be odd with the goals in the adaptation phase (e.g. physio tries to encourage a normal, symmetrical walking pattern in recovery phase, whereas in the adaptation phase, utilisation of an extended hemiplegic leg enables a functional, but abnormal gait.) The technique used will depend on progress made to date, prognostic indicators present and the setting of realistic goals. These goals need to be set by the rehabilitation team in conjunction with the patient and need constant re-evaluation.

The importance of detecting all significant impairments caused by the stroke, and fully exploring functional examination (stroke is not just a motor illness) and global assessment of the individual as a whole person are both essential. Failure to detect impairments (e.g. sensory neglect) results in the patient having the label of “not trying” or “impulsive”.

**Common problems that arise include:**

**Motor deficits:**

It is important to determine both the degree and pattern of power loss. Weakness after a stroke is not uniform, but tends to be worst in extensors of the arm and flexors of the leg. Tone varies from flaccid (common in the early stages) to severe spasticity and the tendency to develop contractures. Spasticity is not uniform throughout all muscle groups (e.g. in the antigravity muscles, flexors in arms, extensors in leg) nor is it constant over time. It may be aggravated by many factors including pain, anxiety, and poor positioning. Important ways of reducing high tone include appropriate positioning of limbs, resolving concomitant medical problems (e.g. constipation, pressure areas, painful shoulder etc), use of serial splinting, application of heat or cold to the limb or combination of these techniques. Increased tone (rather than weakness) was previously thought to be one of the major reasons for impaired function, but this is no longer thought to be the case.

Apraxia (or dyspraxia) is a disorder of sequencing/planning of motor tasks, that seems out of proportion to the degree of weakness etc present. It is defined as “disturbance in the programming and execution of learned, volitional purpose movement” (Gard dyspraxia, dressing dyspraxia and speech dyspraxia are some types of dyspraxia found).

**Sensory deficits:**

**Visual and hearing:**

Many stroke patients are old and many have co-existing visual and hearing impairment. These need to be detected. One of the commonest reasons for difficulty in hearing following a stroke is that his normal hearing aid was not fitted into hospital. Visual deficits resulting from the stroke include homonymous hemianopia (or quadrantopia) and visual inattention. Both can be detected by a standard bedside confrontation test. The latter by using simultaneous, binocular testing. Failure to detect these deficits may result in practical difficulties such as walking into door frames on the affected side, reading difficulties, and have major implications for driving a car.

**Proprioception and other sensory impairments:**

Subjective sensory phenomena following a stroke are common. Hypoesthesia, hyperesthesia and dysaesthesia (abnormal interpretation of touch stimuli) commonly occur. Sensory inattention (or extinction) is a similar phenomenon to the visual inattention described above and may be a form of neglect. Proprioceptive loss causes significant problems post-stroke. Accurate position sense is needed for control of posture, balance and gait. Failure to detect this abnormality sometimes results in the patient being, “inattentive” to their own limb. “I don’t know which is my arm” or “not trying”. The “thumb finding test” is useful for detecting problems, but needs careful interpretation.

**Pain**

Many stroke patients complain of pain. A few may have a Central Post Stroke Pain (CPS) syndrome (previously called “thalamic” pain) which typically presents several weeks or months after the stroke and treatment is imperfect.

More common is a painful shoulder. This is usually associated with subluxation of the glenohumeral joint and stretching of the joint capsule but can be severely aggravated by carers or health professionals not taking appropriate care in handling. Never pull a stroke patient up by the distal arm or hand but assist the patient by placing your hand proximally behind the scapula. The arm should be supported (by palms) etc at all times. The arm should not be allowed to hang down beside the chair whilst sitting, causing sudden winning of the shoulder ligaments.

**Vissuospatial problems after a stroke:**

These are probably the least understood (by patients, carers and health professionals alike) of all the deficits caused by stroke, yet are of major importance in effectively rehabilitating the person with a stroke. To function effectively, you need an accurate image of your immediate surroundings, as well as the relationship of your body, and its parts, to the world around it.

Vissuospatial deficits include not only altered spatial relationships, but also concepts of distance, relativity (under/over, large/smaller), time, speed, sense of direction (geographical apraxia) and sense of horizontality/verticality. Spatial, or spatial relationships, may be thought of as either personal, parsi- personal or extra-personal. Formal testing of these in hospital, with the pen and paper tests outlined below, may only look at the first two domains and ignore the latter.

As with other stroke related deficits, vissuospatial problems get worse when the patient is anxious, under time pressure, is tired or when there is “ clutter” (distractions – eg functions adequately with clear kitchen bench, usually when bushcraft is not disturbed by other object). As with other vissuospatial problems, difficulties with distance and velocity (distance / time) judgments may be unilateral.

**Neglect**

The term “neglect” is frequently used by staff, when referring to some of these problems. However patients, families and carers may interpret “neglect” as either: 1) staff have been neglecting, 2) the family are being accused of neglecting the patient, each with its negative connotations – be aware of how the term is used and interpreted. The term “inattention” is an alternative term to use with patients or families.

**Terminology**

Inattention ability to detect unilateral stimulation on the affected side, but inability to detect simultaneous visual/tactile stimuli on affected side (only appreciates stimuli in unaffected visual field or limb when both sides tested together). Remember that most of our functioning is bilateral so this finding is of major functional consequence, even though a slight neurological sign.

Neglect (see above) – ignoring, or lack of awareness, of one side of body, particularly when distracted. In contrast to inattention, patients with neglect often lack awareness of the affected side even when touched, until prompted. Neglect may also apply to their external space and ignore one side of their external environment.

Agnosia a general term meaning the inability to interpret correctly sensory input. There are different types of agnosia:

- **Tactile agnosia:** a coin is placed in their hand and person is aware that it is there, but cannot discern (with eyes closed) size, shape and texture and therefore cannot interpret what the object is.
- **Sensory agnosia:** another term for neglect above.

**Short sightedness:** the intraocular stimulation on the affected side, but inability to detect simultaneous visual/tactile stimuli on affected side.
Detection of post-stroke problems

Some tests that can be used to detect these problems:

**Pen and paper tests**

1. Line drawing of a house (see images to right). (visual neglect and constructional apraxia)
2. A stick man (tests constructional abilities as well as body image and visual neglect)
3. A clockface (shown to be predictive of outcome after a stroke) - tests cognition as well as spatial functioning.
4. Line Bisection test: 200 mm horizontal line and patient asked to mark the centre point of it. Scored by the distance from the midline.
5. Star Cancellation test: (see example). Patient is asked to cross out all the small stars - this test probably more sensitive as it adds a degree of clutter.

**Thumbfinding**

Patient shown how to grasp thumb on affected hand with other hand. Then, with eyes closed, limb is moved and patient asked to grasp thumb again. This tests proprioception, as well as body image.

**Observation in sitting**

Much can be gleaned by simple observation of sitting posture (e.g. slumped to one side), position of limbs at rest (e.g. arm dangling over side of chair with no apparent awareness and ability to find the speaker when spoken to from their parietic side).

An orange, an apple, a newspaper and a cardigan! hot the standard neurological equipment but functional. The orange and apple can be used for visual fields, inattention and neglect as well as L/H discrimination, the newspaper for visual neglect (as well as dysphasia) and the cardigan for dressing problems and body image.

**Functional tasks**

Rehabilitation is about regaining abilities to do normal day to day tasks as well as leisure activities. The most important tests of visuospatial functioning are functional ones and include observation during day to day activities such as dressing, games and leisure activities and in the kitchen, looking for bilateral use of limbs, neglect of one side, inability to complete task due to apraxia and sequencing problems. In reality, it does not matter if they cannot complete pen and paper tests above, but can do their basic and instrumental ADLs.

**NB:** Always think about driving. It is a very challenging visuospatial task requiring accurate and prompt spatial, velocity (space over time) and distance judgements. It also involves multitasking.

Refer to medical practitioners’ nzta.govt.nz website for formal restrictions of driving. “Medical aspects of fitness to drive” (nzta.govt.nz)

![Image: Severe left-sided neglect and constructional apraxia](image1)

**Communication: Dysphasia, Dysarthria and Dysphonia can result from a stroke**

**Dysphasia** is a communication or language disorder (not just speech), resulting from a cortical stroke. It is common (about 30% of strokes) and causes considerable frustration for both the patient and the carer. Dysphasia can potentially affect an individual in a significant range of possibilities including difficulties communicating basic needs and potentially leading to social isolation or marital difficulties. The dysphasic patient may be inappropriately labelled as “confused”, “dementing” or “not trying”, rather than correctly identified as having a language problem. In simplistic terms dysphasia can be subdivided into disorders of perception and understanding of language (receptive dysphasia), fluency (and non-fluency), word content and use of jargon are also useful to describe dysphasia. Remember that language not only affects verbal communication, but also written language, pictures, gesture and intonation. It is quite rare to have ‘pure’ receptive or expressive dysphasia, with most people having a mixed pattern with one being more prominent than the other.

**Dysarthria** is a disorder of articulation and is a neuromuscular problem resulting in slurred indistinct speech. Language control is retained and so understanding, writing and reading is intact.

**Dysphonia** is an abnormality of production of the vocal sounds at the level of the larynx, nose and mouth. It can be difficult to distinguish from dysphasia.

**Dysphasia** is common post stroke, and in this context refers to swallowing impairment of the upper digestive tract. The following have been found to be independent predictors of dysphasia on initial presentation: age over 70, male gender, disabling stroke, incomplete oral clearance, palatal weakness or asymmetry and impaired pharyngeal response (Mann and Hankey, 2001).)

**Swallowing screen for patients with an acute stroke**

Able to be completed by trained nursing staff as well as speech language therapists.

**Swallowing difficulties** are common (30-50%) after an acute unilateral hemispheric stroke. The natural history of these is to resolve over the next 10-14 days. Most acute and geriatricians’ words now have a nurse trained to assess swallow to avoid patient staying NBM till SLT review is possible. Previous strokes, brainstem or bilateral strokes, increase the risk of having swallowing difficulties.

Be aware that some patients aspire silently. If swallowing problems are not recognised, then aspiration pneumonia may develop:

- at best, may cause increased morbidity and delay rehabilitation
- at worst, may cause death

Alternative means of maintaining both nutrition and hydration need to be instituted whilst swallowing difficulties persist.

Dysphasia after a stroke usually causes difficulty with both liquids and solids.

**How can we detect swallowing difficulties at the bedside?**

There is no gold standard, but some clinical findings are helpful. These include:

**History**

- Coughing after thin liquids, or after meals.
- Dysphonia
- Recurrent chest infections

**Examination Findings**

One or more of the following:

- Drowsiness or reduced level of consciousness
- Moist phonation, breathing or cough
- Ineffective cough (lacks explosive quality)
- Drooling of saliva
- Dysarthria

**NB:** The gag reflex has very poor predictive value (both positive and negative) for detecting swallowing difficulties. The cough is the protective reflex for the airway.

**Dry Swallow**

- Can they initiate a swallowing reflex?
- Is it delayed?
- Is there prompt and complete elevation of larynx (thyroid cartilage moves up)?

**Only if the above tests suggest that swallowing is safe, then proceed to the below**

**Test swallow with sips of cold water (patient needs careful positioning in the upright position)**

- Control of bolus in mouth?
- Initiation of swallow reflex?
- Prompt and complete laryngeal rise?
- If any of the following occur post swallow, they may indicate laryngeal penetration: Coughing, moist phonation, moist sounding respirations?

Repeat test sip of water several times, with cough in between, as aspiration may be volume dependent.

- Is there any temporary oxygen desaturation after swallowing (patient breathing room air)?

If there are swallowing difficulties after a stroke, or you are in doubt, then you need to:

1. Have an immediate plan for managing hydration. This may include NBM, subcutaneous or intravenous fluids, or nasogastric tube for food and fluids. Other dietary options of thickened fluids, puree should only be decided upon in conjunction with the SLT.

2. Refer to the Speech Language Therapist for help with both assessment and ongoing management.
Urinary incontinence
This is a common sequel of stroke but the aetiology is multifactorial. Imagine the following: An elderly lady who has some minor stress and urge incontinence at home but she controls this with regular toileting. She is admitted with an acute hemiplegic stroke and is drowsy on admission. She does not know where the toilet on the ward is, has an expressive dysphasia so is unable to tell the nurses of her need to mi turate, is unable to stand so can not get there herself, and is unable to use the call bell because it has been placed beside her hemiplegic arm. To add insult to injury, she is given a diuretic to control her heart failure making the urinary urgency worse. Naturally, she becomes incontinent and loses all her dignity. Her incontinence can be tackled at each of the levels above and, in many cases, is avoidable or at least treatable once established.

Emotional changes
1. These are less well documented but several changes can be noted. Stroke is so named because they are “struck down” with devastating consequences to their previous lifestyle. There is a natural grieving process to go through similar to bereavement.
2. Anxiety about their ability to cope alone at home again.
3. “Emotionalism” or emotional liability where the patient cries (or laughs) at very slight provocation (threshold for crying is lowered post stroke). The floodgates open if asked if they have that symptom. It is not necessarily a reflection of underlying depression, but may be in a few people.
4. Cognitive impairment. Delirium can occur, needs to be recognised and treated, and normally resolves with time. Specific (rather than global) cognitive problems do occur as a result of a single stroke. Profound short term memory loss can occur with some thalamic infarcts, whereas perceptual problems may make a person appear confused.
5. Depression. Occurs in 10–30% of patients. To be distinguished from 1 above. For many some form of treatment (counselling or pharmacological treatment) may be necessary.
6. Agathy. Some patients seem to lose their internal “starter motor” or drive.

Family
“Stroke is a family illness” and it is they who have to bear the brunt of caring for a disabled patient in the long term. The transition period from hospital to home can be particularly difficult. Families also struggle with this transition and then again when the person is discharged from active rehabilitation programmes (outpatient). At this stage formal rehabilitation is completed, the patient is at home and they are left with the feeling that “nothing more can be done”. Naturally, she becomes incontinent and loses all her dignity. Her incontinence can be tackled at each of the levels above and, in many cases, is avoidable or at least treatable once established.

Some suggested reading

References

Delirium (acute confusional state). “Acute Organic Brain Syndrome”) is one of the oldest conditions known to medicine, yet remains one of the least well understood. The lack of an agreed definition of delirium has been an obstacle to research into this condition. In Diagnostic & Statistical Manual of Mental Disorders, fifth edition, the essential criteria for delirium are disturbance in attention and awareness, change in cognition and development over a short period of time with tendency to fluctuate over course of day. Delirium is an important condition because it is common, causes significant suffering, prolongs and complicates treatment for other conditions, and carries significant morbidity and mortality risks with it. Delirium represents acute brain failure, the cerebral correlate of acute heart failure or acute renal failure. It should be treated with equal respect and concern as with these conditions.

Recent studies estimate that about 25% of older adults are delirious on admission and this may rise to about 55% during the course of admission. Older patients post NOF surgery consistently have higher rates of delirium (up to 65%) during their admission. Studies that have examined the level of awareness by medical and surgical staff of delirium in their patients have found that it often goes undetected or unrecorded. There may be several reasons for this:

1. It is difficult to detect a fluctuating condition that is often worse at the end of the day if your main contact with the patient is during a morning ward round.
2. It is easy to rationalise cognitive impairment as “not the main problem” or “normal for this person” or “older people are often confused”.
3. Delirium is often hypoactive and results in slightly drowsy, confused people who are “no trouble to anyone”.

Clinical features
1. Delirium is characterised by global disturbances of cerebral function. The core features include inattention, disorganized thinking, acute onset, fluctuating course and altered level of consciousness.
2. These features are part of screening tools such as the confusion assessment method (CAM) and 4A Test (4AT).

Other features can include:
- Distressing emotions, typically fearfulness and irritability
- Disordered perception and peracutous ideation (if not delusions)
- People are more likely to experience shadowy figures with gars rather than fairies gathering flowers
- Disturbed sleep/wake cycle
- Motor features such as tremor, dysthria or semi-purposeful repetitive movements such as repeatedly plucking at bedsheet or clothing
- Autonomic features such as sweating and tachycardia
- Delirium nearly always appears acutely and in the context of a precipitating illness or event. However, sometimes the trigger is may not be found.
- Some degree of fluctuation is so characteristic that the diagnosis must be doubted if variability is not observed. Any of the above symptoms may fluctuate.
- Symptoms are usually most manifest in the evening and night-time. Often referred to as “sundowning”.

On mental state examination the most striking features are: fluctuating awareness (“slowing of consciousness”), disorientation, and perceptual abnormalities (vivid dreams which the patient may have difficulty distinguishing from reality, visual distortion/implantations, illusions or hallucinations). Other features are reduced registration and short-term recall with subsequent amnesia or dream-like partial memory for the delirious period, also impaired insight, and agitation. In hospital, the doctor is likely to be called only if the patient is agitated, agressive or psychiatric. It is the quietly confused and perplexed individual sitting in bed blushing at the blanket who is usually missed on a busy ward – the hypoaetic type.

Note that pre-existing cognitive impairment is a significant predisposing or risk factor for delirium. Thus a patient with dementia may well have superimposed delirium which can easily be missed if the doctor is merely regarded as “confused”, without medical and nursing staff thinking more carefully about it. A careful history from a reliable informant should be able to tell you if the patient’s global cognitive function is worse than normal.

The term “subacute confusional state” is sometimes used for states of fluctuating lucidity that persist over weeks or months, e.g. in some cases of oedema or metabolic disturbance. Do not make the mistake of assuming that because the probable trigger has been treated that any remaining confusion is not delirium. For example, delirium can persist for some weeks after the triggering UTI has been treated with antibiotics and hypotension resolved.

Causes
The causes of delirium are legion. In older patients attending a medical service the approximate order of frequency of underlying causes are:
- Infection
- Toxic (drugs - both in overdose and when prescribed normally)
- Hypoxia
- Metabolic disorders
- Post-stroke or MI
- Alcohol withdrawal (or intoxication)
- Virtually any CHD disease, such as Parkinson’s Disease
- Epilepsy
- Subdural haematoma

In addition, aggravating factors often found in the older patient are sensory deprivation, unfamiliar environments (re-location confusion), co-existing nosous stimuli such as pain, sleep deprivation and underlying dementia. A complete list of causes can...
Management

1. Maintain the patient’s physical condition
   - Ensure adequate hydration, nutrition and personal hygiene including bowel and bladder function. A confused patient will need to be encouraged to eat and drink normally and possibly helped with other activities of daily living.
   - Encourage basic medical observations are stable – pulse, BP, O2 saturation and temperature.
2. Make the environment easy for the patient
   - Maximise visual input – adequate lighting, wearing glasses.
   - Maximise auditory input – hearing aids, reduce competing noise, use of ‘hearing wizard’ or other devices common on many geriatric wards.
   - Avoid change in the environment as much as possible.
   - Try to enlist the help of family and keep the number of different staff involved to a minimum to aid familiarity.
   - Use familiar items.
   - Ensure everything in the room and ward is appropriate and as normal as possible. Low dose Haloperidol (0.25 – 1mg/day) or if has Parkinson’s disease then use Quetiapine. Review daily the use of any antipsychotic prescribed.

5. Minimise risks to patient
   - Falls prevention.
   - Pressure areas/skin tears
   - Violence towards staff, patients or family
   - Wandering
   - Attempts to leave hospital
   - Significant disturbance to other patients

6. When to refer to liaison psychiatry or mental health services for older adults(MHODA):
   - if the diagnosis is difficult to make
   - if the delirium is very severe in terms of symptoms (especially psychosis).
   - if the delirium is very prolonged or otherwise treatment-resistant
   - if there are significant risks that are difficult to manage

7. Liaise with Family
   - It is important to liaise with the patient’s family in terms of education about delirium and offering reassurance. Many DHLS have brochures or other resources for this purpose. Engaging with family to help with patient orientation is also useful were possible.

8. Worsening of a patient’s delirium may reflect deterioration in the underlying condition or the advent of a new complication and therefore a full clinical review is essential.

Prognosis

This varies as to the underlying pathology, but untreated delirium carries a high mortality, especially in the older patient.

Full recovery of cognitive function may not occur in up to half the cases, leaving the patient more cognitively impaired than they were prior to the delirium.

Delirium in the older patient is a major risk factor for later diagnosis of dementia.

Dementia

Definition and description

The word ‘dementia’ is a descriptive term and refers to an acquired clinical syndrome rather than a specific disease. It is not a normal part of ageing. It can be succinctly thought of as the syndrome of ‘chronic brain failure’. It affects cognitive domains to do with memory, thinking, and behaviour thereby affecting the ability to perform everyday activities.

A complete definition from the WHO is:

Dementia is a syndrome – usually of a chronic or progressive nature – in which there is deterioration in cognitive function (i.e. the ability to process thought) beyond what might be expected from normal ageing. It affects memory, thinking, orientation, comprehension, calculation, learning capacity, language, and judgement. Consciousness is not affected. The impairment in cognitive function is commonly accompanied, and occasionally preceded, by deterioration in emotional control, social behaviour, or motivation.

(WHO Fact Sheet No.362, March 2015)

According to DSM-5 (Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition), dementia has been renamed as major neurocognitive disorder (NCD), however dementia is still an acceptable term to use in clinical practice. According to DSM-5 diagnosis of major NCD requires, evidence of significant cognitive decline from a previous level in one or more cognitive domains that is sufficient to interfere with independence in activities of daily living.

If a person has cognitive impairment but with no significant impairment in their day to day activities then this is termed ‘Mild Cognitive Impairment’ (MCI). Although MCI is a major risk factor for the development of dementia with about 10% progressing to dementia per year, some people with MCI do not go on to develop a dementia. Interestingly in a community sample 98% of people with MCI returned to normal with no cognitive impairment after 2 years. (Bedny et al Alzheimer’s & Dementia 2013 9(5) 310 - 317)

Dementia symptoms tend to follow a relatively typical course over on average 8-10 years from onset to death (but wide variation in duration).

Early symptoms

Forgetfulness, difficulty in coping with new situations; loss of interest in previous activities; indecisiveness; poor concentration, blunted or depressed affect.

Later symptoms

Greater memory disturbance; disorientation; behaviour muddled, inappropriate or restless; concrete thinking; inability to handle complex ideas; poor judgment; loss of social graces, insight poor.

Advanced symptoms

Total disorientation, little purposeful activity, incohherent speech or mute; double incontinence, neurological signs.

Dementia is one of the major causes of disability and dependency among older people throughout the world.

“The costs of health and social care for people with dementia exceed those for cancer, heart disease and stroke combined”.

Prof Steve Roffe, University College London, 2014.

It has a significant effect not only for the people who have it, but also for their caregivers and families.

Demography

Prevalence 11-14/1000 (approximately 1% of all adults)

Approximate overall prevalence

age 65 5%

age 80 20%

age 95 40%

Interestingly age-specific prevalence rates of dementia are falling in high income countries as seen in recent data particularly from European studies. This possibly reflects improvements in education levels, healthcare and lifestyle in these countries. However this decline is not enough to offset the overall increase in the prevalence of dementia due to the demographics of the increasing numbers of older adults.

In the developing world both incidence and prevalence of dementia are on the rise.

In NZ in 2014 there were about 50,000 people with dementia and this is predicted to rise to 147,000 in 2050.

85% of people with dementia live at home.

Alzheimer’s Disease (AD)

This is the most common cause of dementia and may contribute to 60-80% of cases in older adults. The diagnosis is based on a history of gradual onset of memory impairment with gradual decline in function, and in the absence

be found in any comprehensive medical or psychiatric text book. A good way to think about delirium is that any of us could become delirious if our brain physiology was under enough pressure. The very young and the very old are at more risk of delirium. The underlying causes listed above act to lower our threshold for delirium and, together with aggravating factors, can then push us over the threshold so that symptoms occur.
of other causes of dementia as detected by history, examination or investigation.

Structural brain imaging (eg MRI) may provide clues to pathology. Alternatively, a positive family history may suggest that an individual's risk of developing dementia is elevated.

1. Numerous senile plaques in cerebral cortex, hippocampus and certain subcortical nuclei. Plaques are extracellular, consisting of an insoluble beta-amyloid core surrounded by both dying and dead cells.

2. Neurofibrillary tangles (NFTs) in hippocampus and cerebral cortex. NFTs are made up of paired helical fragments of Tau, an intracellular, microtubule associated protein. Abnormal post-translational processing of tau yields an abnormal, hyperphosphorylated form which is the pathological hallmark of Alzheimer's disease. It is thought that Tau tangles result from a reduction in the clearance of Tau via the ubiquitin proteasomal system. Axonal transport of Tau protein results in toxic Tau aggregates with toxic effects on neuronal function. The Tau phosphorylation pattern is distinct from that of the neurofibrillary tangles of Pick's disease.

3. Beta-amyloid protein deposits in blood vessels within the cortex or the meninges overlying the cortex. Microangiopathy may be suggestive but not diagnostic. We currently lack the pathological features of Alzheimer's disease, so mixed pathology is quite possible. Thus Alzheimer's and Lewy body dementias may also be extremes on a spectrum.

Clinical features consistent with a probable vascular dementia include:

- Early presence of gait disturbance, unsteadiness and falls
- Early urinary frequency and urgency
- Pseudobulbar palsy (cerebral nerve territory paralysing of cortical origin) or other focal uncommon neurological signs
- Affective lability, including "catastrophic reactions" or blunted affect
- Slowing of thought and movement is classically associated with subcortical disease from white matter lesions, as is apathy
- Patchy cognitive loss rather than across-the-board losses. Sometimes associated with insight into the problem
- More absence than fullness of impairments (unlike Alzheimer's), related to higher prevalence of vascular risk factors
- Other vascular disease concurrently
- If strokes are involved, sudden onset and stepwise progression

A vascular dementia is very unlikely if there is early onset of memory loss and progressive worsening of other cognitive functions in the absence of both focal neurological signs and cerebrovascular lesions on CT or MRI; however, as noted previously vascular dementia often co-exists with other forms of dementia, particularly Alzheimer's.

This raises an important point that, in defiance of "Duchenne's Razor", dementia may often be due to mixed pathology than to single illnesses. This is why one should always be suspicious of estimates of the percentage of all dementias caused by one disease, and by overconfident diagnosis.

Lewy Body Dementia (LBD)

Lewy (usually pronounced “Leh-vee”) is a neurodegenerative disorder associated with the presence of Lewy bodies in the brain and is a concomitant of ubiquitin and synuclein inclusions. Since 1990 it was realised that some dementias in older people have prominent Lewy bodies in the brainstem and cortex. It seems as though at least 15% of patients with dementia may be of the Lewy body type. There may be a spectrum of disorders with classical Parkinsonian disease at one end and pure cortical Lewy body disease at the other. Lewy bodies are also commonly seen in patients with pathological features of Alzheimer's disease, so mixed pathology is quite possible. Thus Alzheimer's and Lewy body dementias may also be extremes on a spectrum.

Clinical features of LBD include:

- Fluctuating cognitive impairment affecting both memory and higher cortical function. The fluctuation is like a delirium, can affect any of the symptoms listed here, and can also affect the level of consciousness causing a change in the patient's state. Psychosis, depression and anxiety, delusions, hallucinations
- Parkinsonism and a sensitivity to levodopa
- Visual hallucinations are common, often with peripersonal delusions and sometimes auditory hallucinations
- Problems include restlessness/agitation
- Repeated falls
- Despite clinical features like a delirium, symptoms persist for months
- The syndrome often progresses rapidly to end-stage dementia.

Frontotemporal Dementia (FTD)

Previously known as “Pick's disease". This type of dementia is characterised by symmetrical or asymmetrical atrophy of the frontal and/or temporal lobes without the classical pathology of Alzheimer's disease. FTD may account for around 5-10% of all dementias. It is common to see cases of early onset dementia occurring at a similar frequency to Alzheimer's disease in patients younger than 65 years. This can be subdivided according to the type of abnormal inclusions seen histopathologically, either tau or ubiquitin proteins.

There are two main variants of FTD, behavioural (bvFTD) or language (eg. progressive nonfluent aphasia [PNA], semantic dementia [SD]).

The exact presentation depends in part upon which of the frontal or temporal lobes the disease begins in, but the main clinical features include:

- Insidious onset, slow progression
- Early loss of social awareness with disinhibition and loss of empathy
- Rigidity and inflexibility, distractibility and impulsivity
- Stereotypic and perseverative behavior
- Hyperactivity and emotional uncontrol
- Depression, anxiety and hypochondriasis may be features
- Preserved abilities of spatial orientation and praxis and may have relatively preserved memory. Patients often score well on standard cognitive testing.

Less common causes of dementia

These include Huntington's disease, Normal Pressure Hydrocephalus, Hypothyroidism, Neurofibromatosis, Vitamin B12 and folate deficiency. HIV related dementia is an example of uncertainty. Many rare diseases are also associated with dementia, such as Niemann-Pick disease, and rare metabolic conditions such as lysosomal storage disorders.

Management of any psychiatric complications indicated is a depressive state, anxiety states, delusions, hallucinations

Cognition enhancing drugs (cholinesterase inhibitors or Memantine) are symptomatic treatments not cures. In NZ there are only two cholinesterase inhibitor drugs subsidised, Donepezil and Rivastigmine skin patches. At best, they restore some function temporarily and slow the worsening of symptoms in about 40-50% of cases for a mean of 9-12 months. These drugs do not affect underlying cell loss and have no effect on mortality.

Medication management does not only imply “drug management”. Problems include restlessless/agitation (often worse in the day and termed “sundowning”), resistiveness/aggression (verbal or physical); sleep disturbance; wandering; becoming demanding; hoarding; sexual disinhibition, stripping clothes, incontinence.

In all cases try to identify what triggers the behaviour so that precipitants can be avoided if possible, e.g. pain, nasal/urinary retention, akathisia, thirst, hunger or boredom. A “challenging behaviour” may be best interpreted as a communication of an unmet need or a problem with environmental management. For example, if a patient is constipated, then medication therapy may be helpful. The usual treatment is a regular bowel stimulant such as bisacodyl or senna.

In cases where the above measures are insufficient, it may be necessary to trial a cholinesterase inhibitor or a memantine.

If psycho-social interventions fail, mediation may be useful. The usual drugs tried are antipsychotics such as Risperidone. Sometimes other psychotropics may be used e.g. SSRIs or short-acting benzodiazepines. Very small doses can be effective. Side effects (sedation, falls, loss of function, increased risk of delirium, and increased risk of worsening of behaviour) are very common. Medication is sedation. If ever, indicated for delirium or agitation because success can only be achieved by rendering the patient "sleeping", Other syndromes that respond poorly to drugs are calling out, any infrequent challenging behaviour, apathy and generalised disinhibition. Drug treatments need to be reviewed regularly and titrated up or down as necessary. If behaviour is still resistant, and the possibility of subtle or overt Elder Abuse must be kept in mind.

3. Children and young people. Patients with communication difficulties, loss of speech, or other visual impairment, heart failure, are particularly at risk of delirium.

4. The placement of people with dementia in their home, hospital, or residential care facility. The quality of life of all such people should be considered.

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4. The placement of people with dementia in their home, hospital, or residential care facility. The quality of life of all such people should be considered.
There are a variety of cognitive screening tools that have been and are employed to help assess cognitive function or dysfunction (acute or long-term). Previously one of the most commonly used tools was the Mini Mental State Examination (MMSE). This however is now the subject of copyright disagreements, and consequently is not being used. Tools in current clinical use are listed below:

- Abbreviated mental test Score (AMT) in which the patient is asked 10 questions (1 mark for each correct answer):
  1. Age
  2. Time (to nearest hour)
  3. Address for recall at end of test – this should be repeated by the patient to ensure it has been heard correctly; 42 West St
  4. Year
  5. Name of hospital
  6. Recognition of two persons (doctor, nurse etc.)
  7. Date of birth
  8. Year of 2nd World War
  9. Name of present monarch
  10. Count backwards 20-1

A score below 7 would give cause for concern. Low scores do not help differentiate delirium from dementia.

Other tests include:
- The 4AT (4AT): screening instrument for cognitive impairment and delirium
- Confusion assessment Method (CAM)
- IQCODE
- Montreal Cognitive Assessment (MoCA)
- Addenbrooks Cognitive Examination (ACE-III)
- Rowland Universal Dementia Assessment Scale (RUDAS) – useful in patients who do not speak English, and designed to be used with an interpreter. Does not require the ability to read, write or perform arithmetic, and therefore less influenced by education than other screening tools.

Note: Different DHBs and hospitals may have a preference or policy for the use of different questionnaires so you should be guided by your ward policy and by advice from your clinical team. Copies of the tests used locally will be found on your ward.

A few cautions and limitations of the any cognitive test:
Cognitive tests are only screening instruments and should not be used alone for the diagnosis of dementia or delirium. Neither can they be reliably employed to differentiate dementia from delirium.

Frontal lobe dementia or cognitive problems can be missed with such screening. Patients with language difficulties (e.g. aphasia, dysphasia) may falsely underscore and be considered to have dementia and contrary to it, they may have normal cognition with a speech deficit.

Those with disabilities or visual impairment and who cannot write may be cognitively intact and need caution in the interpretation.

Those who may speak different languages will need to be assessed in their own languages. RUDAS translates well and no copyright.

Educational level is important in the screening as those with lower educational level should not be considered cognitively impaired and need to be tested appropriately.

Most wards are now using the FIM (Functional Independence Measure) to document daily living function. Ideally it should be performed on admission and again on discharge. Please note FIM is to be completed by certified staff only. Please liaise with nursing staff on your ward regarding FIM scores for case histories.

*All some items in the FIM have two options (eg. walk or wheelchair, visual or auditory). If both boxes are filled in, the lowest score is recorded.

- Self Care Eating
- Grooming
- Bathing
- Dressing – upper body
- Dressing – lower body
- Toileting
- Sphincter control (Bladder management)
- Bowel management
- Transfers (Bed/chair/wheelchair)
- Toilet
- Bath/shower
- Locomotion (Walk/wheelchair)
  - walk
  - wheelchair
- Stairs
- Communication: Comprehension auditory OR visual
  - Expression: vocal OR non-vocal
- Social/cognition Social interaction
- Problem solving
- Memory

**Total**

The FIM scoring scale:

**No helper**

- **7** = complete independence (no help, no devices, safely and timely)
- **6** = modified independence (assistive device, safety or timeliness issues)

**Helper**

- **5** = supervision, setup or standby prompting
- **4** = minimal contact assistance or prompting (patient does 75% or more of effort)
- **3** = moderate contact assistance or prompting (patient does 50-74% of effort)
- **2** = maximal contact assistance or prompting (patient does 25-49% of effort)
- **1** = total assistance (patient does less than 25% of effort)

**Total**
Terminology and definitions

The age of 65 years has long been regarded as the cut-off considered as “older age” for reporting health status, health service provision and utilisation. While a cut-off of 65 years may seem arbitrary, it does enable standardised international comparisons and descriptions of trends, and is used in this chapter unless otherwise stated. For some purposes other age thresholds are preferred.

Surveys of older people in NZ have found that in general they prefer the term “older people” rather than “elderly”, “old”, “pensioners” or “geriatric”.

Ageing population

Older population

It is well known that in NZ and most other countries, the population is ageing, that is, the proportion of the population that is older is increasing, a trend that will continue for several more decades yet. Because of their greater use of health services (demonstrated later in this chapter), in future years, older people will dominate medical practice – in primary care, specialist practices and hospitals.

Population ageing is caused not by “baby boomers” (the large cohort born 1950 – early 1970s), but by the reducing rates of both births and deaths. These arise from the combined impact of people having fewer children (the use of the contraceptive pill & women delaying families until they are older) and people living longer (success in population health and health care). Unless radical unanticipated societal change occurs, the proportion aged 65+ will remain high even after the baby boomers have moved through.

Official estimates for the New Zealand population in 2013 are shown in Table 1. Numbers of older people are increasing faster than any other age group. Those aged 65+ reached 511,400 in 2006, and 626,000 in 2013, and are projected to reach over 1,010,300 by 2027. That corresponds to 12% of the total population in 2006, 14% in 2013, and 20% in 2027. Over the same period, numbers 85+ grew from 58,100 in 2006 to 74,700 in 2013, and are projected to reach 125,200 by 2027.

As age increases, the ratio of women to men increases (Figure 1), driven by higher mortality among men in all age groups. Almost 90% of older people in NZ are of European ethnicity, with about 5% Maori and 5% Asian (Table 2). This is changing, with fast growth in older Asian populations.

Table 2. Estimated NZ older population by ethnicity, 2013

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>N 65+</th>
<th>% of those aged 65+</th>
</tr>
</thead>
<tbody>
<tr>
<td>European, NZ or Other</td>
<td>552,600</td>
<td>88.3</td>
</tr>
<tr>
<td>Maori</td>
<td>36,500</td>
<td>5.8</td>
</tr>
<tr>
<td>Asian</td>
<td>32,000</td>
<td>5.1</td>
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<tr>
<td>Pacific peoples</td>
<td>16,300</td>
<td>2.6</td>
</tr>
<tr>
<td>Middle Eastern, Latin American, African</td>
<td>1,800</td>
<td>0.3</td>
</tr>
</tbody>
</table>

Data source: Statistics New Zealand 2012, NZ.Stat, as at 30 June 2013
Demographic projections

Figure 2 shows NZ’s population growth by age group, showing the rapidly increasing 65+ age group until about 2030, followed by rapid growth in the 85+ group. In the 40 years from 2006, the number of people aged 85+ years is expected to rise over five-fold, from 58,100 to 296,700.

Life expectancy

In NZ, fewer live longer than 107 years. The oldest confirmed recorded age for any human is 122 years, so this is regarded as maximum life span. Life expectancy is a statistical estimate of the average length of life remaining at a given age. As in almost all countries, life expectancy in NZ has increased over many decades and is expected to continue over the coming decade at least.

Shorter life expectancy is seen among men and Māori people. At the age of 65 years, women have on average a life expectancy of 20.6 years, and men 18.0 years. At the age of 85 years, life expectancy for women is 6.6 years, and men almost 5.6 years. Figure 3 shows how this has changed since the 1950s, and also the lower life expectancy of Māori.

Longer lives are lived with varied levels of dependency, and there is much debate about compression or expansion of morbidity. The NZ Health Surveys suggest that longer lives are on average being lived with greater periods of dependency, rather than with improved physical function and presumably better quality of life (Figure 4).

Social trends

NZ’s older population is changing and becoming more diverse:

- by the mid-2000s, 30 per cent of people aged 65 or over are projected to choose to continue to be in paid work, compared to 20 per cent in 2010
- older consumers are projected to spend over $60 billion in 2051, vs. around $13.5 billion in 2011
- home ownership rates for people aged 65+ are declining and probably this will continue
- a greater proportion of older people will live alone
- by 2050 the number of older people with a disability is expected to grow by 60 per cent
- the older population will be more ethnically diverse with an increasing proportion of Māori, Pacific and Asian people

Deaths

During the past decade, on average about 60,000 babies were born and 25,000 to 30,000 people died each year; 80% of deaths were of those aged over 65 years. Numbers of deaths each year are now increasing after being relatively stable for the past 25 years. They are projected to increase from 2012 until at least 2045 as 95% of all deaths will be of those aged 65+ (Figure 5).

Place of death

Place of residence in later life is not routinely published, however place of death data for 2004-2007 show that in those dying aged over 65 years, 34% of deaths occur in residential aged care, 34% in public (acute) hospital care, and 5% in hospices. These proportions vary with age, so that of deaths in people aged over 85 years, more than half (55%) occur in residential aged care and 29% in public (acute) hospital care. With population ageing, demand for residential aged care will likely increase markedly, but perhaps not as much as age-specific rates might expect. It has been shown that use of residential aged care is associated more with time to death than with age.

Cause of death

The Ministry of Health assembles information each year from death certificates. They liaise with Ministry of Social Development who manage superannuation and benefit payments, the Ministry of Transport, the Water Safety Council, driver’s licence and passport offices to contact of hospital-based doctors with, older people than with younger people. A further 5,500 discharges from private hospitals were publicly funded but are not included in the figure. Older people are more likely to have adverse events while in hospital, and these are more likely to be avoidable than those which occur in patients of younger age. (continues)

Hospital utilisation

Admissions and discharges

During 2009-7, 99% of all admissions to public hospital were of people aged over 65 years. Six percent were aged over 85 years, and this age group had the highest rate of publicly funded hospitalisations in 2009/10 of any age group. Numbers of hospital discharges, with age-specific rates per 100 people, are shown in Figure 8. After the age of 60, each 5-year age group has similar numbers of admissions although rates rise markedly for those aged over 85 years, men have higher rates of admission than women.
Emergency Department Presentations

Emergency department admissions data show that 22% of all presentations were for those aged 65+ years in 2009/2010 (Figure 9). Again, at older ages men have higher rates of emergency presentation than do women.

Primary care service utilisation

The National Primary Medical Care survey (NatMedCa) in 2001/02 reported a representative sample of GP consultations in private practice (not including Accident & Emergency clinics) expressed as a ratio relative to the population average. A ratio of 2.0 therefore indicates the consultation rate is twice the average in the whole population. A plot of these results is shown in Figure 10, showing again increasing likelihood with age, and higher use of primary care among adult women vs. men.

Residential aged care utilisation

Residential aged care (RAC) facilities fill an important role in New Zealand, providing care for older people whose health and functional needs mean they can no longer live at home, even with support. Facilities come under the Health and Disability Services (Safety) Act, 2003, and are certified and audited by DHBs. Facilities are categorised by the care provided – rest home care for those who need 24-hour nursing care, and private hospital care for those who need nursing care around the clock. (These are private geriatric hospitals, distinct from private surgical hospitals). Dementia care is a form of secure rest home care for those whose behaviour offends in a way that may be expected to be available within a hospital, such as intravenous infusions, x-rays and 24-hour medical cover are seldom available in RAC facilities.

At any one time, about 5% of people aged 65+ live in long-term care facilities, however this increases markedly with age. (Figure 11). In NZ, at least 47% of all people aged over 65 years are estimated to use residential aged care at some time during their lifetimes, 66% of those aged over 85 years.

Dependency levels of RAC residents have increased markedly over the same period, partly because the proportion of the population living in residential aged care has fallen over recent decades, particularly in not-home (lower) level of care. It is believed that use of residential aged care has reduced due to higher levels of provision of home-based care services, compulsory assessment before entry to residential aged care and the growth in housing more suitable to older people, such as in retirement villages. The private hospital (higher level of care) has reduced less, but bed provision for this higher level of care and for dementia care is a growth area.

National statistics are somewhat variable because of their reliance on administrative (subsidy payments) data that miss those who pay privately for their care. Figure 11 therefore uses data from the Auckland Long Term Care Studies to show rates in care in the Auckland region. Retirement villages are not part of residential aged care, but are purpose built housing for older people living independently. Usually they have shared central social and activity spaces,

Figure 6. Leading 11 causes of death in those aged over 65 years in NZ, 2012

Figure 7. Leading 11 causes of death in those aged over 65 years in NZ, 2012, by age group & ethnicity

Figure 8. Publicly funded hospital discharges in New Zealand 2009/10

Figure 9. Public hospital emergency department presentations, 2009/10

Figure 10. Rate ratio of primary care consultations in NZ, 2001/02

Figure 11. Rate of use of residential aged care in Auckland, 1993 and 2008

Diagnoses defined by ICD Chapter of primary cause of death

Abbreviations: MI=myocardial infarction, AF=atrial fibrillation, CHF=congestive heart failure, COPD=chronic obstructive pulmonary disease.

Data source: Ministry of Health 2010
Entitlements, supports and subsidies

NZ has a universal superannuation scheme under which all older residents are entitled to receive weekly payments. While there has been discussion about raising the age of eligibility to avoid taxpayer burden, 65 years is the lower age limit for the meantime.

A range of health supports and services is available to older people where a need can be demonstrated. District nurses, podiatry and rehabilitation services for example can be provided at home. Other home-based support services include household help, including floor cleaning and help with laundry – but usually no more than an hour a day. Personal care, including for bathing and dressing, are usually limited to no more than 2 hours a week.

Beyond that, a person requiring care in the long-term will typically move to an RACF. If the person requires long-term residential independence, the level of care needed determines whether care will be in a rest home or hospital. If a person believes they require support, the first step is to apply for a needs assessment from a DHB or local DHB-funded Needs Assessment and Service Coordination Agency (NASAC). Often this is arranged via the GP or practice nurse.

Alternately a person may be needs assessed while a patient in a public hospital. The needs assessment will determine whether or not the person has a condition that can be reversed, whether or not the person can be safely supported in the community. Needs assessors increasingly use the interRAI tool mandated for use throughout NZ, for both home-based support and RAC care.

NZ residents assessed as needing RAC care are entitled to subsidies for RAC care depending on their care needs and assets. Details are available on the Work and Income, DHB and Ministry of Health websites. Accident Compensation may also be claimed by older people for injuries arising from accidents. Very few insurance schemes cover long-term care in NZ.

Implications for clinical practice and policy

As the population ages, geriatric medicine as a specialty area of clinical practice will grow further, but ageing will impact almost all other areas of medical practice. Many policy and practice issues will need to be addressed, including most particularly the diagnosis and management of multiple comorbidities. Efforts to reduce demand for care through more effective preventive medicine and through ongoing clinical and self-management of long-term chronic diseases will become increasingly important.

This section addresses the health of older Māori (kaumātua). General Māori Health teaching and learning is provided separately, and this section does not seek to repeat that. All aspects of the Hauora Māori Domain curriculum are relevant to working with older Māori patients, however the following areas will be particularly useful to review:

- The historical and contemporary determinants of Māori health in Aotearoa New Zealand
- To Tiriti o Waitangi and implications of the treaty for Māori health
- Cultural competence, in particular the ability to acknowledge and address one’s biases
- Use of the Hui Process when engaging in clinical interactions with Māori patients and whānau
- The meaning of customary words in to te reo Māori (refer to the glossary on the Hauora Māori Domain CourseBuilder site)
- Tiaka and kawa (cultural norms, values and protocols) regarding death and dying

Professor Sir Harry Gruen has noted that “Māori live in diverse cultural worlds. There is no one reality nor is there any longer a single definition which will encompass the range of Māori lifestyles”. What this means is that kaumatua will be diverse socially, economically, culturally, and in every other way. For example, there will be different levels of identification with tikanga Māori (Māori customs); some older Māori will not speak to neo Māori or associate with ‘traditional’ Māori cultural norms and practices. The key message here is that one should never make assumptions about patients.

Kaumātua are often referred to as kua (elder) or kōrō (older man). In Māori society kaumātua tend to hold an esteemed position as holders of knowledge and wisdom. Kaumātua may have significant contributions within their whānau, hapū, iwi and communities, including cultural obligations and supporting whānau in a range of endeavours. Kaumātua may live with or close to whānau, and it is not uncommon for them to be involved in caring for mokopuna (grandchildren). In return there often is an expectation on younger generations to support and care for kaumatua Whanauangatanga (kin relations) are an important support network for kaumatua.

Compared with other ethnic groups, Māori are more likely to reside in rural areas, although the majority of kaumatua live in urban environments. Living rural can result in problems with access to DHB provided rehabilitation and home based support services. Kaumātua may also be living distant to their whānau (i.e. rural areas), so may not have as many traditional supports available from local iwi (tribe) or marae (meeting places).

Government policies of particular relevance to kaumatua are:

- New Zealand Positive Ageing Strategy
- New Zealand Health of Older People Strategy
- He Korōra Oranga – New Zealand’s Māori Health Strategy
- Whānau Ora

Financial issues are important to consider for kaumatua as socioeconomic inequities contribute significantly to the differences observed in health outcomes of kaumatua compared to NZ European older people.

As is the case for other Māori people, some kaumatua may consult a Tuhinga (healer) or Rongoā (Māori medicine and healing) practitioner alongside ‘mainstream’ medical care. Medical practitioners should try to seek information about any other treatment a patient is receiving and work with rather than against traditional healers. However if you feel their management is harmful then it is important that you share those concerns with your patient. A relevant reference is the Medical Council of NZ’s statement on complementary or alternative medicines.

Treatment modalities used in traditional healing include:

- Rongoā-rākau, which refers to the traditional medicinal formulations derived from plants, and associated healing practices
- Māori conceptions of health and wellbeing refer to the knowledge of mana (the spiritual dimension)
- Cognitive assessment instruments in common use such as the MoCA and ACE-III have not been validated in the Māori population. The need for culturally specific tools has been previously recognised, and has led to the development of the Kimberley Cognitive Assessment Tool (KCAT) in Australia. The Rosland Universal Dementia Assessment Scale (RUDAS) [5] cognitive assessment tool also has less cultural bias in use.

A contemporary aging issue for older Māori has been the age at which NZ Superannuation is provided. The comment has been made in the political arena that Māori are now living longer than any other ethnic group. As is the case for other Māori groups of longer life expectancy after age 65. The question has been raised as to whether this should be addressed through differential eligibility for NZ Superannuation.

References

1. Devlin M, 2006 from Ngā Ahutanga Noho a te Hunga Pakeha Māori 2002

Note that ‘kaumātua’ can be translated as ‘elder’. Some people are recognised as kaumātua purely based on their age, but some younger Māori people have knowledge and leadership abilities that mean they also consider kaumatua despite their youth.

Hauora Kaumātua – Health of Older Māori
