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HEALTH AGEING

E-Ageing

Welcome to E-Ageing

We provide education about the ageing process and associated diseases for both medical and paramedical professionals.

Our aim is to foster positive attitudes towards older people.

This site is optimised for viewing in Mozilla Firefox. Mozilla provides open source software for public benefit. Download Firefox for free. The site is also compatible with recent versions of Internet Explorer (7 and 8). You can download Internet Explorer 8 for free.

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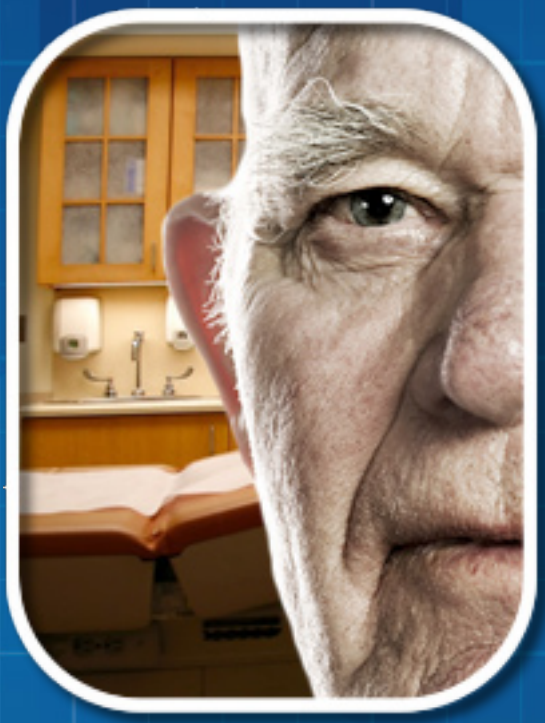
Rehabilitation



Welcome to the Rehabilitation module.

This module will provide you with an interactive case study in which you will consider the components of successful rehabilitation.

This module continues the care of Mr Tanner, who we met in the 'Stroke' module.

Once you have completed the Pre-Module Test below you will be able to commence the Rehabilitation Case Study. The case study follows Mr Tanner's rehabilitation. You are able to be a 'virtual' participant in the weekly multidisciplinary team meetings to discuss his assessment and progress.

Objectives

Pre-Module Test

Resources

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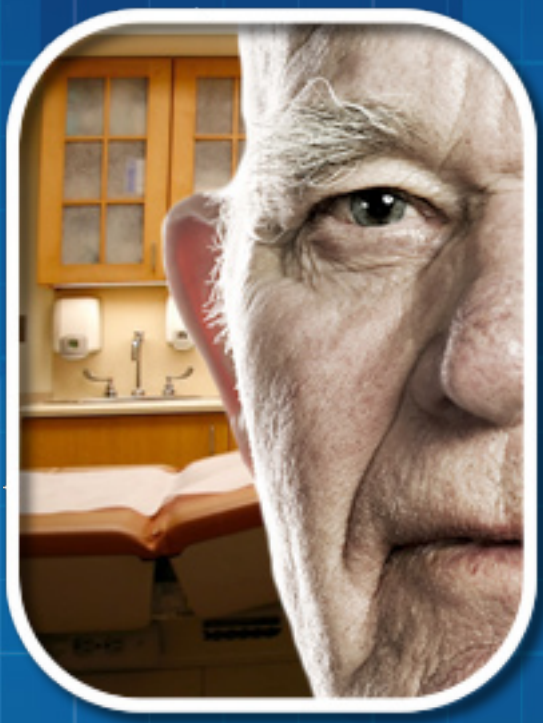
Interactive Case Study



Mr George Tanner is a 72 year old man who recently suffered a TIA and subsequent major acute ischaemic stroke. He was effectively treated with thromobolysis. He has been transferred to the rehabilitation team because of residual dysphasia and right arm weakness.

Review Mr Tanner's history through the links below before continuing the case.

Objectives

1. Understand the importance of multi-disciplinary care in rehabilitation.
2. Discuss the roles of members of the rehabilitation team.
3. Outline how to develop a feasible rehabilitation plan.
4. Outline how to set appropriate goals for rehabilitation and monitor the progress of patients.
5. Understand assessment tools used to assess rehabilitative needs.
6. Describe the needs of the family of a person in rehabilitation.
7. Understand psychological and medical complications that can be important in rehabilitative care.

Resources

afrm.racp.edu.au/index
strokefoundation.com.au/post-acute-health-professional
http://www.daa.asn.au/files/Info%20for%20Professionals/Texture_Mod_Appendix.pdf
http://www.daa.asn.au/index.asp?pageID=2145858291
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Wilson, BA. 2008. Neuropsychological Rehabilitation. Annual Review of Clinical Psychology. 4, 141-162.

Barker-Collo, S et al. 2009. Reducing Attention Deficits After Stroke Using Attention Process Training: A Randomised Controlled Trial. Stroke. 40 (10), 3293-3298.

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Rehabilitation

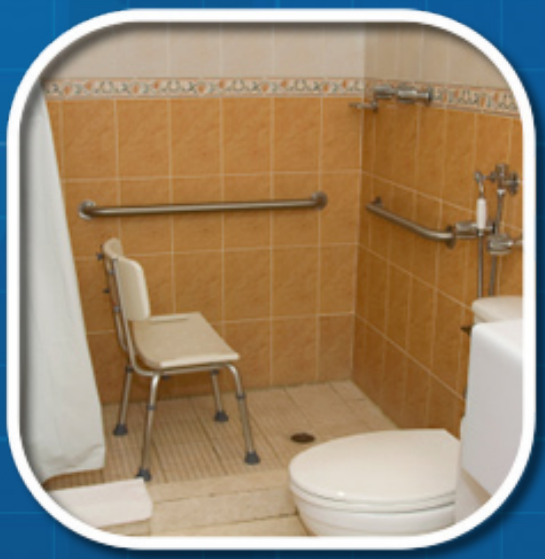
So what's stroke rehab all about? Let's find out from one of the team experts...

The primary goal of rehabilitation is to restore the individual to their greatest potential and maximise independence.

Rehabilitation is concerned not only with physical recovery but also with reintegration of the person into the community. The central aspect of rehabilitation is provision of a coordinated program by a specialised, interdisciplinary team of health professionals that is developed in consultation with the patient and their family/caregiver. Successful rehabilitation involves adopting a broader perspective that includes physical, social and psychological functioning.

Other factors that influence successful rehabilitation include:

1. a positive attitude and approach
2. individual assessment of the patient and caregiver
3. team work (ie. cooperation of professionals, patient, family members etc)
4. promotion of independence by:
    a. special and general therapeutic techniques
    b. optimising the environment
5. should begin as soon as possible after the incident.The major goal of rehabilitation programs for older people is to assist them to manage person ADL's without assistance from another person.



Functional Assessment

One of the most important first steps in planning a rehabilitation program is conducting a functional assessment.

Mr Tanner was independent in all ADL's prior to his stroke. This is important information as premorbid functional status has an impact on the expected outcome of the rehabilitation program.

One day after Mr Tanner's stroke and prior to the family and team meeting where rehabilitation goals will be discussed, registered nurse Wendy Carmichael visits Mr Tanner on the ward, to determine his level of functional independence.

Part of this assessment is to determine what level of rehabilitative care in suitable for Mr Tanner, inpatient or outpatient. It also informs planning and goal setting for rehabilitation and provides a baseline by which to compare Mr Tanner's improvements in the weeks ahead.

Wendy is using the Barthel Index *, but another scale that is commonly used in Australia is called the Functional Independence Measure**.

See the next page for Mr Tanner's initial Barthel Index Score.

* The Barthel Index establishes a patient's degree of independence in activities of daily living. Scoring is done either by direct observation or by asking the patient, nursing staff or family members.

** The Functional Independence Measure (FIM) is an outcome measure of the severity of disability for an inpatient rehabilitation setting. It rates 18 activities of daily living on a 7- point scale ranging from fully dependent (1) to independent with no aids (7). Improvements in functional status can easily be reviewed over time including at discharge and follow-up.

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Barthel Index Results

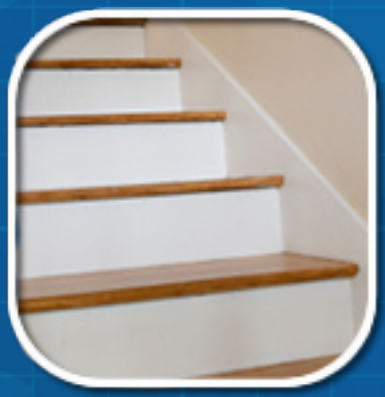
THE BARTHEL INDEX

Patient Name: George Tanner
Rater Name: Wendy Carmichael
Date: 21/2/2009

Activity	Score
FEEDING 0 = unable 5 = needs help cutting, spreading butter, etc., or requires modified diet 10 = independent	5
BATHING 0 = dependent 5 = independent (or in shower)	5
GROOMING 0 = needs to help with personal care 5 = independent face/hair/teeth/shaving (implements provided)	0
DRESSING 0 = dependent 5 = needs help but can do about half unaided 10 = independent (including buttons, zips, laces, etc.)	5
BOWELS 0 = incontinent (or needs to be given enemas) 5 = occasional accident 10 = continent	10
BLADDER 0 = incontinent, or catheterized and unable to manage alone 5 = occasional accident 10 = continent	5
TOILET USE 0 = dependent 5 = needs some help, but can do something alone 10 = independent (on and off, dressing, wiping)	5
TRANSFERS (BED TO CHAIR AND BACK) 0 = unable, no sitting balance 5 = major help (one or two people, physical), can sit 10 = minor help (verbal or physical) 15 = independent	10
MOBILITY (ON LEVEL SURFACES) 0 = immobile or < 50 yards 5 = wheelchair independent, including corners, > 50 yards 10 = walks with help of one person (verbal or physical) > 50 yards 15 = independent (but may use any aid; for example, stick) > 50 yards	10
STAIRS 0 = unable 5 = needs help (verbal, physical, carrying aid) 10 = independent	5
TOTAL (0–100):	35

Barthel Index Results

Mr Tanner scored 55/100 on the Barthel Index. Due to his hemiparesis, he is having some trouble holding cutlery and therefore needs assistance with some aspects of eating. The same applies to grooming and dressing, where he has trouble with shaving, dental care and doing up buttons and zips. He is continent using his bowels and has had only one incident of urinary incontinence. His right leg weakness has improved significantly, but Mr Tanner still has some problems with transferring, walking unaided and would not be safe to climb or descend stairs.



Goal Setting

Now that Mr Tanner's functional abilities have been carefully assessed, goals for his rehabilitation can now be defined. Goal setting is a crucial process in rehabilitative care, and like the rehabilitative process, should be indivisualised.

For rehabilitation to be effective, the goals must be:

1. Meaningful – appropriate to the problems and circumstances of Mr Tanner
2. Agreed upon through consultation with Mr Tanner, his family and the rehab team.
3. Clearly communicated, recorded and able to be measured.
4. Realistic in that they are challenging but attainable.
5. In accordance with a realistic time frame that will shape the teams plan of action.

Goals should never be vague or general. As a guide, you might think about the following components of goal setting:

a) who
b) will do what
c) under what circumstances
d) to what degree of success

Goals should initially be short term and task oriented in order to maximise opportunities for success. This will help build motivation to reach longer term goals.

Mr Tanner should also be assessed for depression*, since this may affect his chances of successful rehabilitation.

*A depressed individual may require management of their depression before engaging in active rehabilitation. Depression impacts upon how a patient processes information. Negative thinking makes it difficult to find positive memories to use in the process of developing new goals. Depressed patients also have difficulty in developing concepts for a positive future. The practical implications for this in rehabilitation is that goal-setting may be unsuccessful without targetting depression first.

Mr Tanner's Rehab Goals

Based on the results of Mr Tanner's Barthel Index, and taking in to account his physical, physiological and psychological impairments, which of the following do you think would be appropriate immediate goals for his rehabilitation?

a) Mr Tanner will be able to transfer from bed to chair and back again, as needed and without assistance.
b) Mr Tanner will be able to walk at least 50 metres unassisted or with a walking stick at least 2-3 times per week.
c) Mr Tanner will be able to do all ADL's, without any assistance from Mrs Tanner.
d) Mr Tanner will be able to use the toilet as needed, without any assistance in transferring, wiping or dressing.
e) Mr Tanner will be able to verbally communicate without constraint, prompting or cues, under all circumstances.

Answer on next page

Mr Tanner's Rehab Goals

Answer: a, b, d - Based on Mr Tanner's limitations, it is likely that with rehabilitation, he will be able to effectively transfer, walk and use the toilet independently. Driving without modifications, performing all ADL's totally independent of his wife and communicating without restriction would all be ideal goals, but may not be initially achievable due to persisting weakness and expressive dysphasia. These goals could be re-written to be more realistic and can be revised during his rehabilitation if his improvements exceed expectations. It is important that Mr Tanner is aware that there is a chance of on-going functional restriction, but that the rehabilitation team will work with him and his wife to ensure the best result possible.

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Week One Team Meeting

Welcome to the multi-disciplinary team meeting for week one of Mr Tanner's rehabilitation. Prior to Mr Tanner's discharge from hospital, each team member reviewed his status. Before proceeding, review Mr Tanner's physical measures:

Acute hospital measures Wt=92kg

Rehab admission measures

Physical Measures

Wt=91.6kg Ht=170cm
BMI=31.7kg/m2 (30.0-34.9 obese class I)
Waist=130cm (>102 greatly increased health risk)
Blood pressure 140/85 (reported by doctor) borderline

Biochemistry

Urea, Creatinine & Electrolytes - normal
Full Blood Count -normal
Lipids - Chol=5.3 (<4.0) LDL=4.0(<2.5) HDL=1.1(>1.0) TG=2.5 (<2.0)mmol/L
HbA1c = 6.9% (6.0-7.0% good control) Fasting BGL=5.8 (3.0-5.4)
Urinary Microablumin and microalbumin/creatinine ratio - normal

BGL measured on ward daily

0600hrs fasting: 5.1-6.5
1230hrs before lunch: 6.0-7.0
1800hrs before dinner: 5.3-6.7
2000hrs: 8.3-9.7mmol/L

Please consult each team member to hear about their assessment of Mr Tanner. After reviewing each assessment, you will progress through the reports of the multidisciplinary team.

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Physiotherapist

Physiotherapist

The role of the Physiotherapist is to assess and treat

- Mobility,
- Respiratory function and risk of aspiration
- Determine the level of falls risk and to
- Set goals with the team.

The TACS patient will undergo assessment initially by the medical team to reverse the damage; nursing staff will monitor and position the patient.

Points to consider

- This patient may have a decreased conscious state and the Physiotherapist, Nursing staff and Speech pathologist will all liaise to establish the risk of aspiration.
- Chest physiotherapy will commence immediately a problem is identified, should the patient be unable to clear their own secretions or have focal signs of infection.
- The deficits in this type of stroke syndrome may require education just for the patient to roll in bed. Therefore the physiotherapist will assess bed mobility and will determine safe management of transfers.
- Visual and perceptual deficits can impact on this patient's safety and therefore the patient may be unsafe to mobilize without full assistance
- They may be unable to sit without support and they may be unable to balance to stand.
- Positioning and Seating requirements will require liaison with the Occupational Therapy department.
- The Physiotherapist will use early mobilisation to promote normal movement and function in all these activities.
- The Physiotherapist facilitates limb and trunk movement to enable independence in self care activities. For example arm recovery in dressing.
- Walking may be with or without facilitation and with or without aids.

Usually, a lesion of this size means the rehabilitation process in hospital may take as long as 3 months and will require regular team meetings and goal setting with constant communication between all disciplines and family.

I visited Mr Tanner this morning. He has dense right arm weakness, but has reasonable balance and good strength and control in his right leg. He is a little unsteady moving about. He seems to have lost a bit of confidence in his abilities. Over the coming weeks we will work on restoring normal movement and functionality to the arm and on increasing his strength and confidence in mobilising. I would also like to speak with Mr Tanner in regards to increasing his level of physical activity and will work with him on this during rehab, so that an exercise plan can be prescribed once formal rehabilitation is completed.

I think his progress will be accelerated if we refer him on to RITH (Rehab in the Home) as he is more likely to be active in his home environment. We will just need to work closely with Mrs Tanner and the carers. I do not want Mr Tanner reinforcing abnormal movement patterns, so we will need to keep a close eye on him.

Mrs Tanner seems to understand and accept this, so I think home based rehab may be a good option.

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Stroke Rehabilitation Guidelines

Which of the following are relevant guidelines for early rehab post-stroke?

a) The stroke team should meet regularly with the person and their family to involve them in management, goal setting and planning for discharge.

b) A pre-discharge assessment should include social, emotional, physical and finan cial needs of the person with stroke and their family.

c) Task-specific training, electrical stimulation and progressive resistance exercises are three ways to treat reduced strength after a stroke.

d) For people with severe weakness and who are at risk of developing shoulder pain and trauma, management should include educating staff, carers and people with stroke, to prevent trauma.

e) Rehabilitation should include interventions to increase cardiovascular fitness.

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Stroke Rehabilitation Guidelines

Answer: a, b, c, d, e - All of these are recommended stroke rehabilitation guidelines!

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Occupational Therapist

Occupational Therapist

An OT is also an important part of the multidisciplinary team.

The role of occupational therapy in stroke is two-fold. We can treat people as a rehab candidate as an inpatient, and also have a big role in the discharge planning process.

We treat people by looking at their abilities to complete their desired activities, whether that's self-care, occupation and leisure.

As an inpatient in rehab, OT's breakdown activities into smaller parts to ensure that a person can perform affectively in their desired tasks.

The sub-components are;
How the patient moves (so that's their motor area) and we concentrate specifically on the person's upper limb as this has most to do with their function in every day life.

We assess sensation, which is their awareness of their body. We assess their vision, which is obviously their eyesight and to make sure that they don't have any visual field deficits. We assess perception, how people make sense of their incoming information. We also assess and treat cognition, which is how the person plans to react to that incoming information. We can also look at the person's mood and behaviour, as potentially, after stroke, people have a lot of adjustment problems.

We assess these components and treat these areas incorporating them in function so to ensure as well that the patient can actually achieve the desired outcome.

The main problem for Mr. Tanner, we would envisage, is first of all positioning. We would need to liaise with the nursing staff and physiotherapists to ensure that Mr Tanner has correct positioning in both bed and chair, as this may compromise his rehab.

We would also expect him to have reduced sensation and movement in his side contra-lateral to his lesion. We also suspect that he may have an apraxia, which is a motor planning problem or it's the idea that he has lost the concept of particular activities.

Lastly, we play a major role in discharge planning. So we need to assess whether the patients environment at home is suitable for him to return to. We would need to take him on a home visit and check for rails and equipment, and we would supply those prior to discharge.

I assessed Mr Tanner yesterday. As previously mentioned, he has severe right arm and hand weakness. He is right-handed so this could pose significant difficulties for him. I asked him to perform a number of simple tasks, such as brushing his teeth, doing up a button, holding a cup of tea and buttering a slice of toast, none of which Mr Tanner was able to perform with his right hand. A major focus of his occupational therapy over the next few weeks will be on assessing the functionality of this hand and aiming to restore normal use as much as possible. He will go on a home visit with me before discharge so that I can assess his functionality in the home in more detail, but in principle I tend to agree that home based rehab may be a good option for the Tanner's.

Assessing Arm and Hand Function

How would you assess arm and hand function in Mr Tanner's case?

a) Palpate Mr Tanner's arm to assess muscle tone and passive and active range of movement.

b) Ask Mr Tanner to follow simple instructions to complete functional tasks.

c) Ask Mr Tanner to sit out of bed and see how he completes his regular daily activi ties.

d) NK dexterity board (The NK Dexterity Board provides timed testing of the manipu lation ability of the thumb and all fingers, as well as the adaptability of the hand in measuring objects of varying sizes).

Answer on next page

Assessing Arm and Hand Function

Answer: a & b - Palpating Mr Tanner's arm to assess muscle tone and passive and active range of movement is a good starting point to begin to understand Mr Tanner's physical impairment. In addition, asking him to follow simple instructions to complete functional tasks, is a good way to begin assessing his functional abilities. Mr Tanner should not be sat out of bed without guidance from the physio and doctors, as his shoulder may be at risk of subluxation if his right arm is unsupported. The NK dexterity board is a high level outcome measure and would not commonly be used with someone who has severe arm weakness. Mr Tanner may have difficulty with this test and therefore find it demoralising .

Cognitive Screening Tools

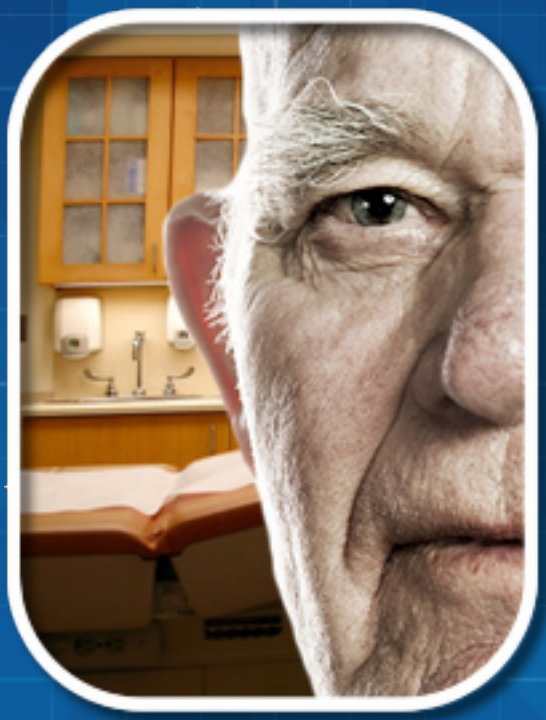
I also did some basic cognitive screening with Mr Tanner and found him to be cognitively intact. However, since subtle cognitive deficits post-stroke are highly predictive of decreased quality of life and of dementia, he may benefit from a more thorough neuropsychological assessment.

What cognitive screening tools would be appropriate for Mr Tanner?

a) RUDAS
b) MMSE
c) Clock Drawing Test
d) KIKA
e) None of the above

Answer on next page

Cognitive Screening Tools



Answer: e - MMSE and Clock Drawing Test would ordinarily be used to assess cognition, but Mr Tanner's hemiparetic right hand and expressive dysphasia would likely affect his result using these screening measures. Mr Tanner therefore requires a specialised cognitive screen that takes these issues into account, such as The Rivermead Behavioural Memory Test (RBMT) (Wilson, Cockburn, & Baddeley, 1985), or COGNISTAT (Kiernan, Mueller and Langston, 1987).

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Neuropsychological Assessment

Cognitive deficits frequently occur in stroke survivors and are most important predictors of broader rehabilitation outcomes than physical disablities. Impaired attenion is the most-common stroke related neuropsychological deficit and can result in impaired functional recovery, decreased quality of life and increased risk of falls.

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Speech Pathologist

Speech Pathologist

Speech Pathologists have a varied an important role in stroke rehabilitation. A speech pathologist's role in stroke management can be both in areas of communication and swallowing.

First, starting with swallowing, around 27-50% of all acute stroke patients experience dysphagia or swallowing difficulties. Dysphagia results in decrease in nutrition and hydration, greater risk of aspiration pneumonia, increased length of hospitalization, illness, and in some cases even death.

Speech pathology intervention focuses on assessment, and management of swallowing and eating difficulties following a stroke.

So, when a patient first presents to me, after they've had a stroke, I need to establish;

- Are they safe enough to manage oral intake?
- Can the patient actually swallow?
- Can they be deemed safe enough to take their medications orally?
- Do they require, if they do have impaired swallow, modified diet or fluid level?
- Does their diet need to be pureed?
- Do they need thickened fluids?
- If their swallow is so impaired that they cannot manage a diet orally, do they require nutrition and hydration through an alternative means, such as a nasogastric tube?

In those such cases, I need to liaise with the dietician, and refer to their expertise, and collaborate together with them to effectively manage a nasogastric regime.

There is also a role in dysphagia for education of patient, family, and the stroke team in regards to safe swallowing strategies as well as the continuous monitoring and reviewing of the patient, to monitor progress, or also the regression. A stroke can also affect communication skills, resulting in a disability due to dysphasia, which occurs in a frequency of around 21-38% of all acute strokes, and/or dyspraxia and dysarthria which occur in incidence of 20-30%. Communication impairment can also be secondary to cognitive problems, such as decreased concentration, attention, increased tiredness, memory, and problem solving deficits. Speech pathology provides specialized assessment, therapy, and advice regarding the best way to help a patient who has a communication problem.

The impact on a patient who does have a communication problem can be a very isolating experience for them. There is a lack of power because they are not able to get their basic needs and wants met because they aren't able to communicate those. There is anxiety, the patient is also unable to participate fully in the recovery and rehabilitation process. There is also impact upon all allied health nursing and medical staff. There is frustration within staff members because they are unsure in how to engage the patient. There is increased time needed to actually communicate effectively. There's also the difficulty in building up rapport and developing the whole therapeutic alliance.

So, a speech pathologist works to establish; how is a patient able to express their basic needs and wants? Can the patient actually understand? And then you can establish a basic communication system which allows the patient to participate in recovery, for them to be able to state their wants and needs, be provided with some sort of choice.

Sometimes, if they are unable to speak or express what they want verbally, we can resort to alternative communication systems, such as communication boards.

A speech pathologist's role also incorporates education again; the provision of information to the patient, the family as well as the stroke team regarding the best suited mode of communication for the patient, as well as ongoing communication therapy for that patient.

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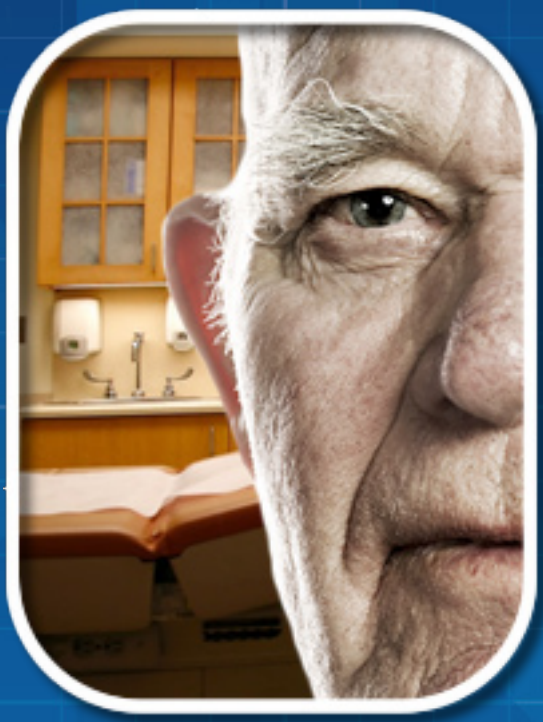
Speech Pathologist



Mr Tanner presented with moderate non-fluent expressive dysphasia* as a result of his recent stroke and this will be the primary focus of his rehabilitation. Mild receptive difficulties were also noted for complex, lengthy information. Mr Tanner's orofacial musculature was within normal limits and his swallowing function was intact.

When I assessed him this afternoon, Mr Tanner presented with limited meaningful verbal output. His speech was very slow and effortful and he had difficulty talking spontaneously about familiar topics. He was able to answer simple biographical questions with time and support (e.g. Where do you live? What work do you do?).

Mr Tanner's speech and language skills were screened using the BEST-2 aphasia screen. He had difficulty naming and describing pictures making frequent semantic or word errors (e.g. "pin" for nail). He was able to comprehend single words, one and two stage commands and basic "yes" and "no" questions.

Mr Tanner was noted to become frustrated when word finding difficulties were experienced and he is avoiding conversations. This appears to be placing some strain on his wife. Over the coming weeks speech pathology intervention will target Mr Tanner's language and functional communication skills, while providing education and support services to his family and staff on the ward.

* Dysphasia is an acquired communication disorder that results from damage to the language areas of the brain. It can affect the expression (expressive dysphasia) and comprehension (receptive dysphasia) of language, including reading and writing skills. Expressive dysphasia can be classified into fluent and non-fluent forms. Individuals with non fluent dysphasia tend to have reduced rate of speech, effortful articulation and word finding difficulties.

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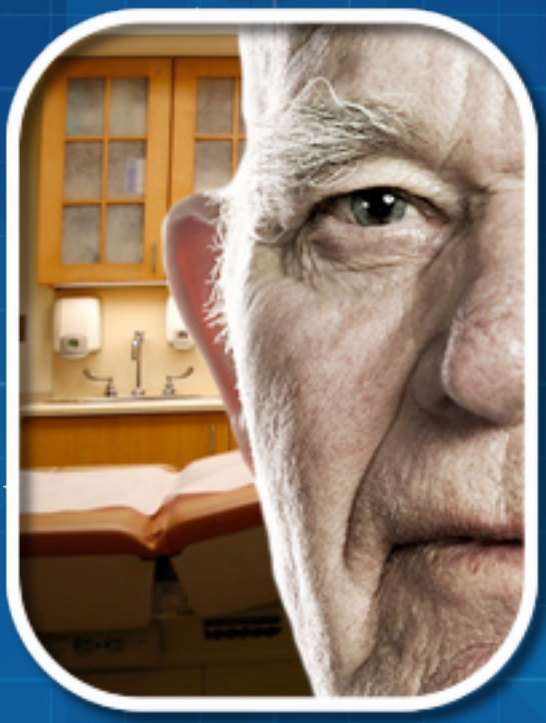
Introduction of Speech Pathology



What is the recommended optimal time for the introduction of speech pathology after onset of stroke?

a) As early and as frequently as possible
b) Two weeks post-stroke, twice per week, once medical condition has stabilised
c) One month post-stroke, twice per week, once medical condition has stabilised and mobility is sues have been addressed
d) None of the above

Answer on next page

Introduction of Speech Pathology

Answer: a - Current clinical guidelines for stroke rehabilitation conclude that patients with communication difficulties should be treated as early and as frequently as possible in the constraints of local resources.

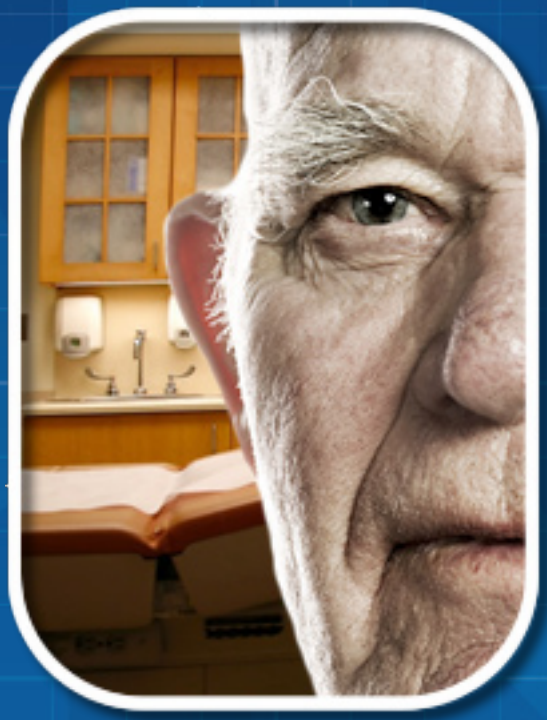
Appropriate Therapy Approaches

Which of the following therapy approaches would be appropriate for Mr Tanner?

a) Individual speech pathology sessions targeting word finding difficulties and language skills
b) Training family members and staff in the use of supported conversation
c) Using computer based therapy programs to strengthen language
d) Provision of oro-motor exercises for his lips, tongue and soft palate to improve articulation and volume

Answer on next page

Appropriate Therapy Approaches



Answer: a, b, c

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General Practitioner

General Practitioner

I have been reviewing Mr Tanner regularly. His blood pressure has dropped and is currently under borderline control, at 140/105. I will continue to monitor this. I have recommended that he restart warfarin 2mg daily . Mr Tanners stroke was thought to be cardi-oembolic, secondary to his AF. This will not be a barrier for him entering RITH – I can refer Mr Tanner for domiciliary phlebotomy (blood tests).

(Remember the main stroke aetiologies we learnt about in the stroke module?

Mr Tanner had AF and it was thought that a clot from his heart had travelled to his brain, causing the stroke.)

I have had a long talk with Mr and Mrs Tanner to try and help them understand the lon-ger terms risks and benefits of warfarin therapy.

Secondary Prevention Measures

What secondary prevention measures would you recommend for Mr Tanner in order to reduce future stroke risk?

a) Get regular exercise
b) Reduce carbohydrate and increase salt intake
c) Medical therapy with an antihypertensive and lipid lowering therapy
d) Regular visits to the GP
e) Lose weight and reduce alcohol intake

Answer on next page

Secondary Prevention Measures

Answer: a, c - The most significant things Mr Tanner can do to help prevent stroke in the future are to improve his diet, start and maintain regular exercise, reduce his alcohol intake and regularly visit his doctor in order to monitor BP, BSL and cholesterol.

Complex multiple agent pharmacotherapy is often recommended in the secondary prevention of stroke following the results of large randomised controlled trials. It is important to know if Mr Tanner is adherent to any prescribed therapy. What is his understanding of his illness? Is he willing to take tablets that may prevent future events, but will not necessarily make him feel any better?

Dietary recommendations include reducing salt, saturated fat and cholesterol laden foods and increasing intake of fresh fruit and vegetables, lean meats and wholegrains.

Walking is one of the best all round forms of exercise and Mr Tanner should walk at a speed that increases his heart rate, but still allows him to talk.

Alcohol is a significant risk factor for stroke and Mr Tanner is advised to significantly reduce his intake to only one or two light beers on social occasions.

Nurse

Nurse

Since admission, Mr Tanner has had only one episode of incontinence. At this time, he was still quite disoriented post-stroke and due to his expressive dysphasia, he was unable to communicate his need to urinate in time for a nurse to help him to the bathroom. He now seems to be coping fine with toileting, although occasionally needs help there and back and/or getting up off the toilet.

He is ambulating quite well but his gait pattern needs further improvement so we are encouraging him not to walk without a nurse present so that we can ensure he follows the physio's instructions. Falls risk due to physical, physiological and neurological factors will need to be regularly monitored in the weeks ahead.

After speaking to Mr and Mrs Tanner I felt that they are keen to work with us to make home based rehab successful. They really are eager to get out of hospital.

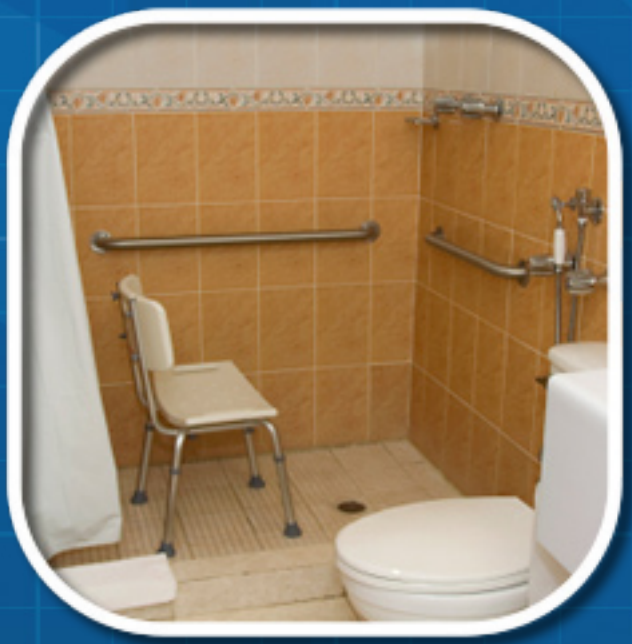
In the early stages, Mr Tanners will require help with his ADL's, such as showering, dressing and eating, as he is experiencing some problems due to his hemiparetic right hand. This will be provided through a personal carer to assist his wife.

Preventing Bladder Problems

What are the most important factors to consider when trying to prevent bladder problems in someone who has recently had a stroke?

a) Weight control
b) Communication
c) Drug therapy
d) Blood sugar levels
e) Fluid balance
f) Mobility
g) Blood pressure
h) Bowel management

Answer on next page



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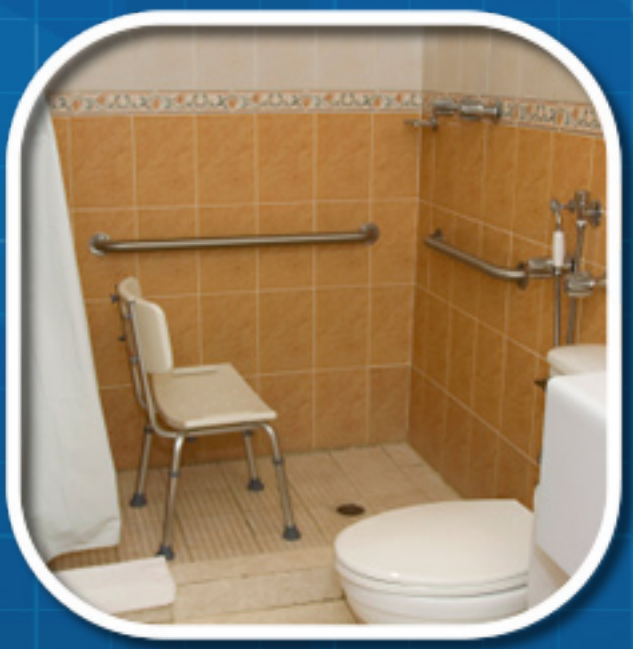
Preventing Bladder Problems

Answers: b, c, d, e, f, h



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Preventing Bladder Problems - Feedback

It is essential to monitor the following factors in order to prevent bladder problems in stroke patients:

Fluid balance – functional difficulties may prevent adequate intake of fluids. A daily intake of 2-3 litres per day can prevent urinary tract infections that may occur due to immobility in in-ability to adequately empty bladder.

Urinary output or episodes of incontinence should be monitored as these can reveal problems with bladder emptying (eg. urinary retention or retention with overflow).

Mobility – the ability to walk unaided is the most important factor in maintaining or regaining continence after a stroke. Assisted mobility should begin as soon as possible after the stroke. This will help facilitate bladder emptying as well as improving morale, appetite, bowel and bladder function, muscle strength, joint mobility and is therefore a crucial part of rehabilitation.

Blood sugar levels - If a person is diabetic, hyperglycaemias (high blood glucose) can cause polyuria (production of large volumes of urine)

Communication – Many people will have communication difficulties after a stroke. In the early stages, patients may experience urgency when they want to pass urine, but may not be able to adequately express this need. Consideration therefore needs to be given to strategies to im-prove or facilitate communication.

Drug therapy – careful attention should be paid to prescription drugs as some of these can cause, or worsen existing incontinence. These include diuretics, muscle relaxants and some antihypertensives.

Bowel management – constipation can cause or worsen existing continence problems and at-tention therefore needs to be paid to fluid intake and a fibre rich diet.

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Clinical Psychologist

Mr Tanner is euthymic at present. However, I am concerned that a possible drop in mood may occur over the coming weeks. I have asked the ward staff to continue to monitor his mood closely until he goes home. If home based rehab goes ahead we'll need to make sure team members visiting Mr Tanner remain vigilent for dysthymia.

As his expressive dysphasia begins to improve and he becomes more aware of his communicative restrictions, he may become frustrated. The same could apply to how quickly he recovers use of his right hand and is able to do simple tasks for himself.

Depression can prevent a stroke patient from fully participating in rehab activities, leading to sub-optimal outcomes and premature discharge from rehab programs. Early detection of a depressed mood/anhedonia is therefore very important.

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Preventing Depression

Depression is a common psychological problem and can negatively impact upon a patient's recovery.

What is one of the most important ways to prevent depression in people undergoing rehabilitation?

a) Regularly assess them using the Geriatric Depression Scale
b) Ensure they get enough sleep by prescribing benzodiazepines
c) Set realistic rehabilitation goals in conjunction with the patient, family and multi-disciplinary team

Answer on next page

Preventing Depression

Answer: c - Patient/family participation in goal setting gives everyone involved a clear understanding of the current limitations and facilitates the establishment of realistic rehabilitation goals. The patient's involvement in this process gives them a sense of ownership of their own rehab program, control over their recovery and enables them to come to terms with what to expect in the months ahead. This realistic understanding can help prevent a drop in mood as limitations/difficulties are realised. There is also evidence that structured approaches to the delivery of education and advice targeting emotional recovery and adjustment after stroke can help to prevent depression.

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Dietician

A dietitian's role in stroke rehabilitation extends beyond secondary prevention.

The dietitian is involved in two aspects of stroke rehabilitation and recovery. These are hydration- nutrition and secondary prevention.

Dehydration is common after stroke, due to consequences of stroke such as swallowing impairment, immobility, and communication difficulties. Dehydration has been associated with poor outcomes post stroke, and therefore fluid supplementation by appropriate methods should be used to prevent dehydration and treat it as well.

Malnutrition is also associated with worse outcomes, and can lead to negative effects such as weakness, infections, pressure sores, increased length of stay, and also increased mortality. All patients with acute stroke should be screened for malnutrition and there are a number of validated tools available. Patients at risk, including those with dysphagia, should be referred to a dietician for assessment and ongoing management.

High protein, high energy diets including nutritional supplements may be indicated, and should be offered if patients have poor nutritional status or are deteriorating.

If dysphagia has affected a patient's ability to attain adequate nutrition and fluid, enteral feeding by nasogastric tubes or percutaneous endoscopic gastrostomies may be indicated. Evidence for which method of feeding is most appropriate is actually unclear but generally it's accepted that nasogastric tubes be used in the short term, and PEG tubes are practical for long term, if people do not regain swallow.

It's a complex ethical and quality of life debate so it's important that the team discuss these decisions and that the family and the patient ultimately decide the outcome. More research is actually required regarding the benefits of early enteral feeding and the possible negative outcomes.

The dietician will recommend an appropriate method of feeding and advise appropriate enteral feeding regimes, and in liaison with speech pathology we work on transitioning the patient to oral diet as their rehab progresses. If a patient is discharged from our unit with a PEG tube the dietician will review the patient on a regular basis to monitor weight and dietary intake. We also ensure that they have access to enteral feed formula.

In terms of secondary prevention, every person with a stroke should be assessed and informed of their risk factors and possible strategies to modify their risk factors. The dietician can provide nutritional counselling in relation to high cholesterol, hypertension, obesity and diabetes.

Dietician

I noted Mr Tanner's assessments by other team members including: dental hygiene being managed by the OT and RNs, severe right arm and hand weakness necessitating assistance with some aspects of eating (cutting food, spreading butter, etc), no bowel or bladder problems (constipation, diarrhoea or incontinence) and an intact swallow. Due to the lack of dysphagia (difficulty swallowing), a texture modified diet and thickened fluids are not required. However a soft diet would still be of benefit to allow self feeding (no need to cut up food), but assistance to spread margarine on bread etc would still be required.

What is a texture modifed diet?
Dysphagia (difficulty chewing and swallow solid foods) can result in aspiration of fluid/foods resulting in chest infection and increased mortality. To manage this fluids may need to be thickened and diet texture may need to be modified. In severe dysphagia cases saliva can be aspirated and in this case saliva may need to be suctioned from the patient's mouth (and feeding would commonly start via nasogastric tube).

To see a how modified food and fluid diets are classified by the Dietitians Association of Australia and the Speech Pathology Association of Australia (2007), please see the Australian Standards for Texture Modified Foods and Fluids on the next page.

Mr Tanner should be routinely screened for malnutrition upon entering the rehabilitation ward as 30-50% of rehabilitation patients are malnourished. Valid malnutrition screening tools for use in the rehabilitation setting include the MNA-SF and Rapid Screen. Using the MNA-SF, Mr Tanner was found to have possible malnutrition, so a more thorough assessment using the MNA was undertaken.

What is MNA-SF?
The Mini Nutritional Assessment Short Form (MNA-SF) is used to screen for malnutrition, while the complete MNA can be used to diagnose malnutrition.

Mr Tanner's MNA Assessment - See page after next

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Dietician Continued

DAA Dietitians Association of Australia

Australian Standards for Texture Modified Foods and Fluids

Speech Pathology Australia
giving people a say in life

The provision of thickened fluids and texture modified foods is a routine part of the assessment and management of feeding and swallowing difficulties (dysphagia).

If you need assistance with the level of fluid and food texture modification required, contact your Speech Pathologist.

To find a Speech Pathologist, go to www.speechpathologyaustralia.org.au.

If you require support to determine whether a textured modified diet is meeting nutrition and hydration needs, contact your dietitian.

To find an Accredited Practising Dietitian (APD), go to www.daa.asn.au.

Please contact Novartis on 1800 671 628 or visit www.novartisnutrition.com.au for further information or for copies of this poster.

This poster is proudly supported by Novartis Medical Nutrition as part of the development of the Australian Standards.

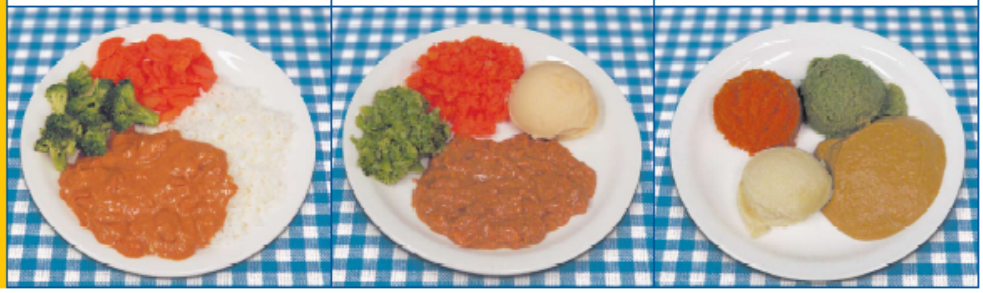
NOVARTIS MEDICAL NUTRITION

Fluid

Mildly Thick Level 150	Moderately Thick Level 400	Extremely Thick Level 900
Fluid runs freely off the spoon but leaves a mild coating on the spoon	Fluid slowly drips in dollops off the end of the spoon	Fluid sits on the spoon and does not flow off it

Food

Texture A Soft	Texture B Minced and Moist	Texture C Smooth Pureed
Food may be naturally soft or may be cooked or cut to alter its texture	Food is soft, moist and easily mashed with a fork; lumps are smooth and rounded	Food is smooth, moist and lump free; may have a grainy quality



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Dietician Continued

Nestlé Nutrition INSTITUTE

Mini Nutritional Assessment MNA®

Last name: Mc Tavnert First name: Sex: M Date:

Age: 72 Weight, kg: 91·6 Height, cm: 170 I.D. Number:

Complete the screen by filling in the boxes with the appropriate numbers.
Add the numbers for the screen. If score is 11 or less, continue with the assessment to gain a Malnutrition Indicator Score.

Screening

A Has food intake declined over the past 3 months due to loss of appetite, digestive problems, chewing or swallowing difficulties?
0 = severe loss of appetite
1 = moderate loss of appetite
2 = no loss of appetite **2**

B Weight loss during the last 3 months
0 = weight loss greater than 3 kg (6.6 lbs)
1 = does not know
2 = weight loss between 1 and 3 kg (2.2 and 6.6 lbs)
3 = no weight loss **3**

C Mobility
0 = bed or chair bound
1 = able to get out of bed/chair but does not go out
2 = goes out **1**

D Has suffered psychological stress or acute disease in the past 3 months
0 = yes 2 = no **0**

E Neuropsychological problems
0 = severe dementia or depression
1 = mild dementia
2 = no psychological problems **2**

F Body Mass Index (BMI) (weight in kg) / (height in m²)
0 = BMI less than 19
1 = BMI 19 to less than 21
2 = BMI 21 to less than 23
3 = BMI 23 or greater **3**

Screening score (subtotal max. 14 points) **1** **1**
12 points or greater Normal – not at risk – no need to complete assessment
11 points or below Possible malnutrition – continue assessment

Assessment

G Lives independently (not in a nursing home or hospital)
0 = no 1 = yes **0**

H Takes more than 3 prescription drugs per day (incl. warfarin)
0 = yes 1 = no **0**

I Pressure sores or skin ulcers
0 = yes 1 = no **1**

Ref. Vellas B, Villars H, Abellan G, et al. Overview of the MNA® - Its History and Challenges. J Nut Health Aging 2006;10:456-465.
Rubenstein LZ, Harker JO, Salva A, Guigoz Y, Vellas B. Screening for Undernutrition in Geriatric Practice: Developing the Short-Form Mini Nutritional Assessment (MNA-SF). J Gerontol 2001;56A: M366-377.
Guigoz Y. The Mini-Nutritional Assessment (MNA®) Review of the Literature - What does it tell us? J Nutr Health Aging 2006; 10:466-487.

J How many full meals does the patient eat daily?
0 = 1 meal
1 = 2 meals
2 = 3 meals **2**

K Selected consumption markers for protein intake
- At least one serving of dairy products (milk, cheese, yogurt) per day yes ☑ no ☐
- Two or more servings of legumes or eggs per week yes ☑ no ☐
- Meat, fish or poultry every day yes ☑ no ☐

0.0 = if 0 or 1 yes
0.5 = if 2 yes
1.0 = if 3 yes **1** **0**

L Consumes two or more servings of fruits or vegetables per day?
0 = no 1 = yes **1**

M How much fluid (water, juice, coffee, tea, ...) is consumed per day?
0.0 = less than 3 cups

Dietician Continued

M How much fluid (water, juice, coffee, tea, milk...) is consumed per day?
0.0 = less than 3 cups
0.5 = 3 to 5 cups
1.0 = more than 5 cups
[1.0]

N Mode of feeding
0 = unable to eat without assistance
1 = self-fed with some difficulty
2 = self-fed without any problem
[0]

O Self view of nutritional status
0 = views self as being malnourished
1 = is uncertain of nutritional state
2 = views self as having no nutritional problem
[2]

P In comparison with other people of the same age, how does the patient consider his/her health status?
0.0 = not as good
0.5 = does not know
1.0 = as good
2.0 = better
[1.0]

Q Mid-arm circumference (MAC) in cm
0.0 = MAC less than 21
0.5 = MAC 21 to 22
1.0 = MAC 22 or greater
[1.0]

Dietician Continued

Based on the results of the MNA, Mr Tanner was found to be at risk of malnutrition, but not malnourished at this stage. The adequacy of his dietary intake needs to be assessed during admission (may become inadequate due to physical or psychological reasons).

Mr Tanner has essentially maintained his weight throughout his acute hospital admission (pre-rehabilitation admission). His energy requirements have decreased due to his restricted mobility and he has had assistance with eating which has enabled him to maintain an adequate intake. However a soft diet should enable him to eat with minimal assistance.

I spoke with Mr and Mrs Tanner together, with Mrs Tanner supplying most of the information, but Mr Tanner being given the opportunity to speak and provide advice about preferred food choices in hospital, etc. Mrs Tanner reports that Mr Tanner eats well in hospital (all meals) when assisted by staff members/herself. Mr Tanner would benefit from food/fluid charts being kept for the first 3-7 days of his rehabilitation and thereafter as needed to allow assessment of the adequacy of his intake.

Mrs Tanner's recall of Mr Tanner's dietary intake at home shows he consumed a nutritionally adequate diet pre-admission except for an inadequate intake of vegetables on some days. However his intake of total and saturated fat was too high for effective lipid management and he was not meeting lipid targets despite the statin therapy. Mr Tanner also consumed a high sodium diet and a reduction in salt intake to <4g/day (65mmol sodium) will assist with long term blood pressure management, reduction in recurrence of stroke/TIAs, reduced risk of other cardiovascular events and maintenance of normal renal function.

As previously mentioned, Mr Tanner's intake of vegetables at home was often inadequate, although he does consume 2 serves of fruit daily. An increase in vegetable intake to > 5 serves daily and maintenance of his fruit intake will increase intake of vitamins, minerals, fibre and potassium. An increase in potassium will also help with long term blood pressure management and reduction in recurrence of stroke/TIAs and other cardiovascular events.

At home Mr Tanner's intake of carbohydrate (CHO) was sometimes excessive and a reduction in CHO intake at some meals (e.g. dinner) and consumption of regular low GI CHO portions over the day will assist with blood glucose level (BGL) management (Mx). Currently Mr Tanner's BGL are satisfactory (but not ideal). Improvements in dietary intake and weight will assist with long term BGL Mx however he will need ongoing monitoring of these by his doctor.

Dietician Continued

At home Mr Tanner's alcohol intake was above recommendations and would have caused raised BGL, contributed to hypertension and excess body weight. Mr Tanner would benefit from reducing his intake as per his doctors instructions (already provided) or national recommendations (≤2 standard drinks per day and to include 2 alcohol free days per week).

Mr Tanner is obese with central adiposity and in the future weight loss will assist with lipid/BP/BGL management. He will also need to reduce his energy intake if his mobility continues to be reduced to prevent further weight gain. Reduced mobility may also result in raised BGL unless CHO/energy intake is restricted.

Mr Tanner's biochemistry results show adequate nutritional status, fluid status, renal and liver function, however his lipids remain above target. His BGL collected 4x daily on the ward show satisfactory BGL control (e.g. 6-7mol/L fasting/premeal and ≤10mmol/L 2 hours post prandial), however these could be improved to good or ideal control (e.g. 4-6mol/L fasting/premeal and ≤8mmol/L 2 hours post prandial), with lifestyle change.

The aim of nutrition intervention is to provide a nutritionally adequate intake of appropriate texture (soft) foods/fluids, which prevent recurrence of stroke/TIAs and manages his co-morbidities while in hospital. Education will also be provided so this diet may be continued at home. As he is obese, weight and waist circumference loss would also be of benefit providing this occurs via a nutritionally adequate intake.

Requirements:
Energy for weight maintenance = (Harris Benedict, Activity Factor=1.2, Injury Factor=1.0) = 8473.2kJ
Energy for weight loss = 6000kJ (2500kJ below estimated requirements to allow >0.5kg loss/week).
Protein= 0.8-1.0g ptn/kg = 73.3g
Fluid 35-45ml/kg = 3200-4120ml/day
Sodium = <65mmol/day

Recommended diet for Mr Tanner: A soft, nutritionally adequate diet, low in energy/kilojoules, total and saturated fat, salt and sugar and high in fibre with low GI foods provided where possible. CHO portions must be controlled and spaced regularly over the day.

The above diet was ordered from the hospital kitchen and the menu ordering system was explained to Mrs and Mr Tanner. It was decided that Mrs Tanner would assist her husband in completing the daily menu.

The reasons for implementing the recommended diet were explained to Mr and Mrs Tanner who were willing to keep to the prescribed diet. This discussion was kept brief as they have received a lot of information from other health professionals since being admitted to the ward.

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Stroke risk

Which of the following statements about relating to reducing stroke risk are correct?

a) A BMI <25kg/m2 and waist<80cm in women/ <94cm in men is ideal to reduce disease risk, however in overweight/obese patients a weight loss of 5-10% will still provide health benefits and assist in reducing risk factors.

b) Salt restriction will be of benefit for patients with hypertension.

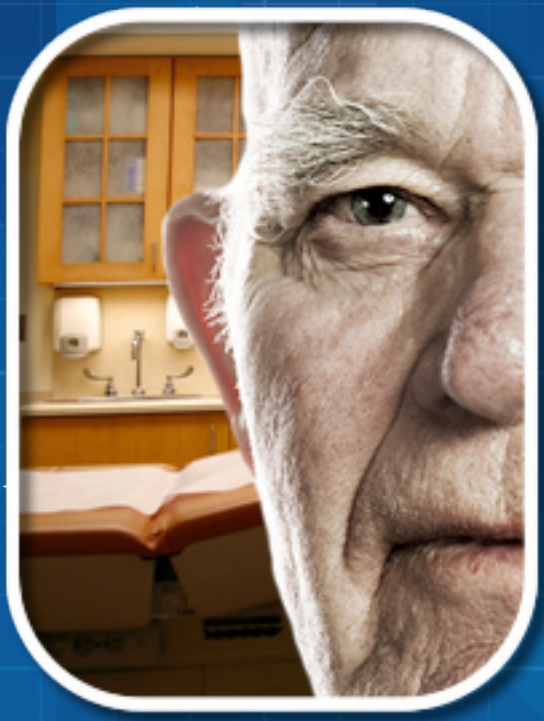
c) Increase potassium intake by eating a wide variety of fruits and vegetables, legumes and small quantities of unsalted nuts.

d) Eat a diet based on fruits, vegetables, whole grains, low fat dairy products, lean meats/chicken/fish and moderate amounts of monounsaturated and polyunsaturated fats, but which is low in sodium, cholesterol and saturated fat.

e) Limit alcohol intake to ≤2 standard drinks per day for men and ≤1 standard drink per day for women and include at least 2 alcohol free days per week.

Answer on next page

Stroke Risk



Answer: a, b, c, d, e - All of these dietary aspects will help reduce stroke risk.

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Week Two Team Meeting

Welcome to the Multi-disciplinary team meeting for week 2 of Mr Tanner's rehabilitation.

Mr Tanner was successfully discharged three days after the last meeting and has now been at home for four days.

Mr Tanner's current physical measures

Physical Measures
Wt=91kg

Biochemistry
Urea, Creatinine & Electrolytes – normal
Full Blood Count - normal

BGL measured on ward daily
0600hrs fasting: 5.1-6.5
1230hrs before lunch: 6.0-7.0
1800hrs before dinner: 5.3-6.7
2000hrs: 8.3-9.7mmol/L

Please consult each team member to hear about Mr Tanner's progress.

After reviewing each assessment, you will progress through the reports of the multidisciplinary team.

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Physiotherapist

Physiotherapist

Unfortunately, Mr Tanner has been experiencing worsening pain in his stroke affected shoulder. He has been instructed in ways to support his right arm correctly in sitting and lying and I have provided a GivMohr sling to use while he is mobilising.

I have been using functional, electrical stimulation (FES) movement re-education and soft tissue mobilisation techniques but the pain is persisting.

I have referred him to a doctor for further assessment. Otherwise, he is transferring and mobilising well and we have commenced him on a gentle walking exercise program.

Mr Tanner still fatigues easily with physical activity, but he does seem to be showing improvement in the distance that he is able to ambulate. As his leg strength and general endurance improves, his gait pattern and balance are becoming more normal. He continues to need supervision with mobility tasks.

If shoulder pain persists, Mr Tanner may benefit from a Multidisciplinary Pain Management Program*.

* Multidisciplinary Pain Management Programs have an increasing evidence-base to support their use in reducing suffering and pain perception. The success of these programs is in their adoption of a Cognitive Behavioural approach to management.

Pain Management Programs have the capacity to improve the patient's quality of life, reduce suffering and distress and provide a more satisfying daily lifestyle. They are not designed to eliminate pain or provide the patient with a cure.

Assessment of shoulder pain

Would the Ritchie Articular Index be an appropriate method of assessing Mr Tanner's shoulder pain?

a) Yes
b) No

Answer on next page

Assessment of shoulder pain

Answer: a - Yes! The Ritchie Articular Index is a standardised measure of pain experienced on passive external rotation of the shoulder joint. It does not require intact language to score, however a pictorial scale of pain intensity (SPIN) has been developed specifically for recording pain in individuals with impaired communication.

Jackson D et al International Journal of Therapy and Rehabilitation 13(10): 457 - 463 (Oct 2006).

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Treating shoulder pain

Which of the following interventions are likely to be effective in the reduction of hemiplegic shoulder pain?

a) Aromatherapy plus acupressure
b) Slow-stroke back massage
c) Intramuscular neuromuscular electric stimulation (NMES)
d) Intraarticular triamcinolone acetonide (TA) injection
e) Intramuscular botulinum neurotoxin type A (BoNT/A) injection

Answer on next page

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Treating shoulder pain

Answer: a, b, c - A recent systematic review by Koog et al (Disability & Rehab 2010; 32(4): 282–291) found that aromatherapy plus acupressure, slow-stroke back massage and intramuscular neuromuscular electric stimulation (NMES) can be effectively used for managing hemiplegic shoulder pain. Intramuscular botulinum neurotoxin A injection and intraarticular triamcinolone acetonide injection were not helpful at one or three months after the end of treatment. However, intramuscular electric stimulation was still effective three months after treatment.

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Occupational Therapist

Occupational Therapist

I have been focussing on treating Mr Tanner's hemiparetic hand, which is showing moderate improvement, although his pinch grip is still weak. He is having trouble with some tasks, such as holding a cup of water, holding utensils, doing up buttons and holding a pen.

Mr Tanner has enquired as to whether he will still be able to drive, as he values his independence and needs to be able to get to bowls. I advised him that at this point driving will not be possible, but that he may well be able to return to driving after further rehabilitation. I will arrange for a driving test to be scheduled for Mr Tanner in 2 months time. He didn't like this advice but seemed more accepting after some discussion.

Driving safety

How would you ensure that Mr Tanner is safe and legally able to drive once able?

a) Refer to Aust Road Guidelines for patients with stroke diagnosis
b) Inform patient of their responsibility to alert the State Licensing Authority of their diagnosis
c) Ensure that Mr Tanner's GP is aware of the advice you provided and the long term plans for re turn to driving
d) Refer Mr Tanner for an on road test when rehabilitation complete

Answer on next page

Driving safety

Answer: a, b, c, d - All are correct. The approach to driving should be individualised, but all of the above suggestions would be acceptable components of a care plan.

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Social Worker

Social Worker

How might a social worker assist Mr Tanner in his rehabilitation?

Like many patients Mr. Tanner has quite a number of issues to consider in planning to return to community living. Some of these issues will include:

- Whether his wife is able to manage his care in the home situation.
- Whether their home requires any modifications to enable his care to be undertaken.
- Whether there are any financial and legal considerations that may need to be looked into.

All of these sorts of issues will be discussed with Mr Tanner and with the family in order to make sure that discharge is appropriate.

We also need to check with Mrs Tanner and make sure that she has an understanding of what has occurred so far, and potentially the long term implications are.

Issues such as:
-Will he still be able to drive?
-What it's going to mean in terms of his ongoing social situation.
-His previous love of bowling.

All of these sorts of issues will need to be looked at.

Whilst Mr Tanner is under-going rehabilitation, transport has been arranged to help them get around, as Mrs Tanner no longer holds a current driving license and Mr Tanner in unable to drive. I have also arranged support for Mrs Tanner through HACC (Home and Community Care), as she is having trouble coping with some of the more arduous jobs around the house and yard that were previously attended to by Mr Tanner.

Mrs Tanner recently wanted to discuss the changes to their intimate relationship that might be necessary since he had his stroke. She has heard that sexual contact can increase the risk of stroke and is concerned about how this may affect her husband.

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Sex and stroke risk

Does sex increase the risk of another stroke?

a) Yes
b) No

Answer on next page

Sex and stroke risk

Answer: b - Research has found that there is no link between sexual intercourse and stroke. Moderate exercise is actually beneficial for people with stroke. The increase in heart beat, blood pressure and breathing rate during sexual intercourse is similar to walking up or down a flight of stairs.

Sexuality after stroke

Well, that's good news for the Tanner's. There are, however, some other aspects of sexuality that might be worth discussing.

Which of the following would be appropriate to discuss with the Tanners at this time?

a) Don't expect too much all at once. Allow yourself and your partner time to adjust and work through your thoughts and feelings

b) There are lots of factors that may affect successful return to sexual activity, such as erectile problems, fatigue, de pression and medications that cause low libido, and many of these can be overcome. Talk to a doctor if you are concerned

c) Maintain participation in regular physical activity as this will maintain not only physical fitness, but also a positive mood

d) You can show love without sexual intercourse, such as touching, hugging, kissing and massage. It is important to discover what both people enjoy

e) Experiment with new ways of having sex if you have paralysis, muscle weakness or any loss of sensation

Answer on next page

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Sexuality after stroke

Answer: a, b, c - All of these are relevant issues that might be discussed in regards to sexuality and returning to sexual activity after a stroke.

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Speech Pathologist

Speech Pathologist

Mr Tanner's expressive dysphasia is improving, although he is still having some trouble with word finding and longer utterances. His initiation of speech is much improved although does become affected when he is tired or feeling anxious or under pressure.

Communication Tools

Which of the following communication tools would be appropriate for use in Mr Tanner's case?

a) A communication board (15 photographs with matching phrases related to basic personal needs)
b) Medical passport (34 page conversation book comprising icons, pictures and words relating to health matters)
c) Picture dictionary (pocket sized 88 page picture dictionary dividing essential everyday symbols and pictures into 12 different categories)
d) Computer speech generator
e) Dysphasia card reading "I have had a stroke. I can not speak properly. Please give me time to get my message across. "I will write you a note", which he can use in public places such as shops

Answer on next page

Communication Tools

Answer: a - At this stage Mr Tanner is probably going to find a communication board most useful to help cue his word finding. Other aids could be helpful at different times depending on the circumstances. Continue to the next page to see an example of a communication board.

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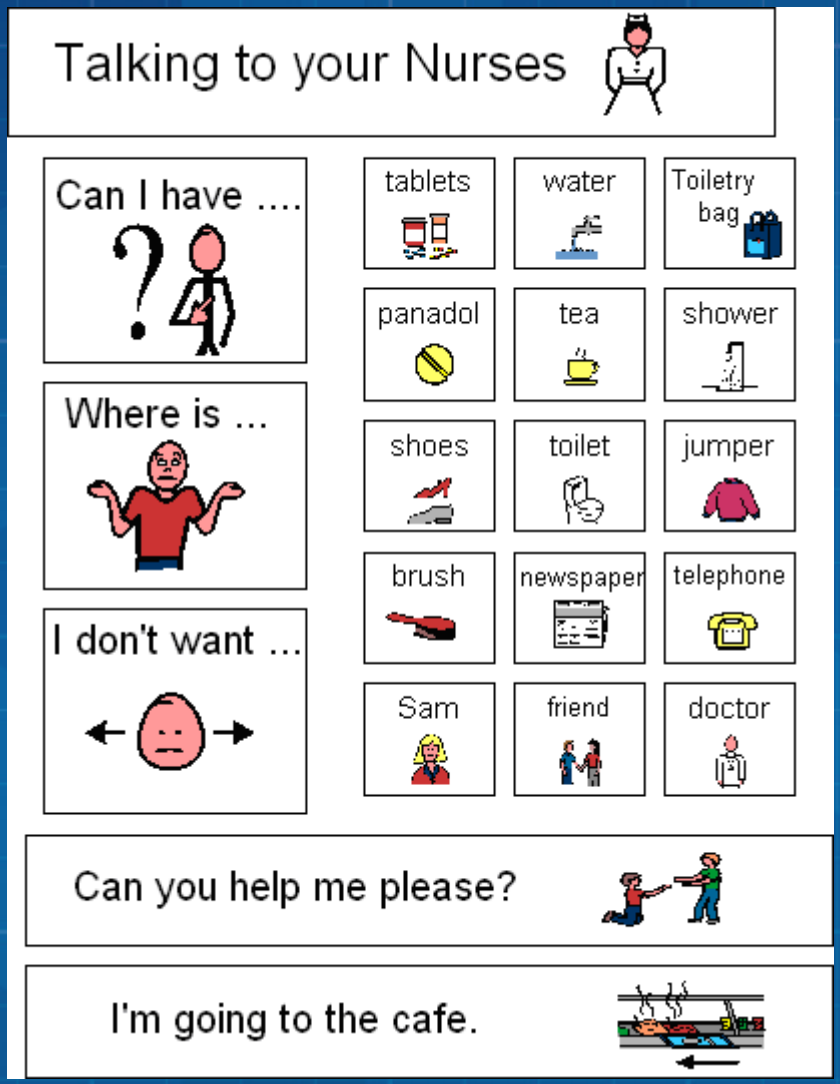
Communication Board



Oral Hygeine

Mr Tanner is having a trouble holding a toothbrush due to hemiparesis in his right hand. While he is undergoing rehabilitation, he is attempting to learn brushing his teeth left-handed, but I am a little concerned about his long term oral hygiene. This will need to be monitored.

Why is the speech pathologist concerned about oral hygiene?

a) She doesn't want Mr Tanner to get tooth decay
b) She doesn't want Mr Tanner to develop mouth ulcers
c) She doesn't want Mr Tanner to get halitosis
d) She doesn't want Mr Tanner to be at risk of aspiration pneumonia

Answer on next page

Oral Hygeine

Answer: a, b, d - Build up of plaque on the teeth can lead to large amounts of bacteria in the saliva. Even though Mr Tanner is not at high risk of aspiration, there is always a possibility that the oral musculature is affected after stroke even though his swallow is grossly intact. Micro-aspiration (small amounts of saliva entering the airways) is also a distinct possibility that could introduce bacteria to the lungs.

Avoiding tooth decay and mouth ulcers are also relevant concerns.

General Practitioner

General Practitioner

Mr Tanner's blood pressure is still well controlled and is now down to 135 systolic.

X-ray and Ultrasound of the right shoulder showed no abnormality to account for Mr Tanner's pain. The cause is most-likely therefore hemiplegic shoulder pain post-stroke. There is little scientific evidence regarding the best way to treat this, but pain relief will be necessary. As a first line treatment, an injection of cortisone has proved helpful. Intra-articular injections of steroidal or non-steroidal anti-inflammatories may be considered as on-going treatment in the short term.

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Treating Shoulder Pain

Regarding Mr Tanner's shoulder pian, which of the following statements are most applicable?

NSAIDS are a good option for Mr Tanners' pain

Possibly – but particular cautions are relevant (eg given risk of gastritis) in the context of his warfarin therapy. Also, think about the other risks of NSAIDS (impaired renal function, fluid retention etc).

Putting up with some pain is better than getting addicted to pain killers

Some patient express this opinion. However generally it is beneficial to maintain pain relief during Mr Tanner's rehabilitation as shoulder pain can hamper functional recovery. Good shoulder function is a prerequisite for effective hand function, as well as for performing multiple tasks involving mobility, ambulation, and activities of daily living (ADL).

Little can be done about shoulder pain. It is important that Mr Tanner understands this, as false hope can be crushing

Yes shoulder pain can be a very challenging problem in rehab and the team need to be honest with Mr and Mrs Tanner. However a multidisciplinary approach is essential in managing Mr Tanner's shoulder pain.

In addition to pharmacological pain relief, the nurses and OT will be able to advise on appropriate positioning of the shoulder to help alleviate pain.

The physiotherapist can work with a number of specific physical, electrical and ultrasound techniques.

Cognitive behavioural therapy and specialist relaxation techniques, as advised by a psychologist, may also be instrumental in helping Mr Tanner sleep better and cope with his pain.

The xray and ultrasound were a waste of resources

Yes, injudicious use of investigations can be a problem. But, in this case the team felt investigation was justified given he severity of Mr Tanner's pain.

Nurse

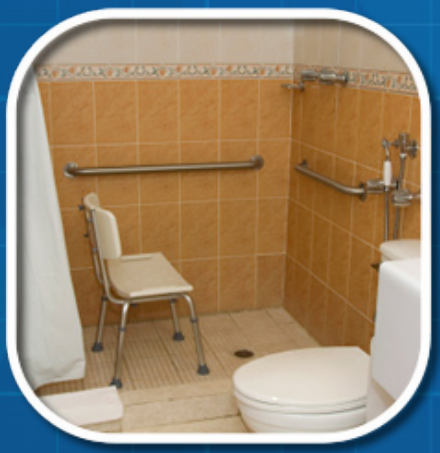
Nurse

Mr Tanner is having some troubles performing his ADL's due to his hemiparetic hand, particularly dressing and holding cups/cutlery. He gets quite frustrated at this.

Mr Tanner is also having difficulty sleeping due to his shoulder pain, which adds to his frustration. He has asked for a sleeping tablet. We are reluctant to offer benzodiazepines, but we are trying to find a more effective pain management for him. I have done a sleep hygiene prescription - see next page.

Our clinical psychologist sometimes helps us with relaxation techniques if this isn't effective.

Mr and Mrs Tanner and I have met with the personal care assistants to make sure that the care they are providing is not getting Mr Tanner into bad habits by consistently relying on the help of others. Mr Tanner should be encouraged to do what he can for himself, with help offered when required. All assistance should be consistent with the OT's instructions. In particular we want Mr Tanner to use his shower chair. I have also made sure that the care assistants understand the showering and dressing care plan and which bits Mr Tanner can do.



I will go through it with the Tanners and care workers again next week after the OT and physio have updated the plan. I think it is a lot for the Tanners to understand so it will be helpful if I can reinforce what the OT and physio say.

I've spent a lot of time helping Mrs Tanner think about how Mr Tanner is still himself in many ways. I think she is beginning to think more positively about how Mr Tanner can live successfully with any residual impairments.

Nurse

Sleep Hygiene Prescription

You can expect to be more alert and enjoy a better quality of life when you stop taking benzodiazepines (sleeping tablets).[1]

Patient's Name: Mr Tanner

I recommend you try the following sleep hygiene habit/s:

✓	Sleep Hygiene Habit
✓	Regular time of rising and retiring (including weekends)
✓	Avoid naps (at most one brief nap)
✓	Undertake regular daytime aerobic exercise - rehab as per care plan.
n/a	Avoid cigarettes (for 2-3 hrs before going to bed)
✓	Avoid excess alcohol (for 2-3 hrs before going to bed)
✓	Avoid coffee and cola drinks (reduce gradually) (for 2-3 hrs before going to bed)
✓	Avoid strenuous exercise close to bedtime - ATM + RM exercise as per plan
✓	Avoid a heavy meal close to bedtime
✓	Indulge in relaxing evening activities, such as ~~a warm bath before retiring~~ meditation
✓	Ensure a comfortable temperature and quiet, dark environment for sleep
✓	Get up about the same time each day regardless of the amount of sleep that night
✓	Use bed for sleep and sex, not for reading, watching television or eating
✓	If unable to sleep, get up and do something

Comments:.....

.....

GP Signature: RN Carmichael on behalf of ATM team

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Avoiding Benzodiazepines

The reasons that RN Carmichael and her team want to avoid benzodiazepines include which of the following?

a) Increased risk of falls
b) Possibility of rebound insomnia or anxiety on withdrawal
c) Possible daytime "hangover" effect
d) High rate of long term use after initial prescription

Answer on next page

Avoiding Benzodiazepines

Answer: a, b, c, d - All of these are concerns regarding the use of benzodiazepines. Use of benzodiazepines is associated with several problems. You will find more detailed information from the national prescribing service useful. Review it at:

http://www.nps.org.au/health_professionals/drugs_and_therapeutic_topics/benzodiazepines_-and-_other_hypnotic_drugs.

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Clinical Psychologist

Mr Tanner's mood has deteriorated since his initial assessment. This is largely due to his frustration at the limitations imposed by his hemiparetic right hand and his inability to sleep due to right-sided shoulder pain. His mood was irritable and he seemed pessimistic about the future, but I have assured him that the function of his hand is likely to improve significantly throughout rehab and that relaxation techniques can help overcome insomnia.

We practiced a number of relaxation techniques, including a progressive body scan to relax the entire body, sound meditation and guided meditation, which are often easier for people new to meditation.

Mr Tanner was sceptical at first as he thought meditation was 'mumbo jumbo'. However, after practising each technique a number of times, his did admit that both his mind and body felt more relaxed.

Hopefully, regular use of meditation will help overcome pain and induce peaceful sleep by enhancing Mr Tanner's sense of self-control over his pain and combat feelings of helplessness and demoralisation.

I also used some CBT to introduce pain coping, anxiety management and self-efficacy strategies. We discussed the role negative thinking plays in potentiating and maintaining pain levels and feelings of anxiety and depression. I worked with Mr Tanner in challenging his negative thoughts and replacing them with more adaptive coping thoughts. I have also encouraged Mr Tanner to work towards gradually increasing his activity levels with a particular focus on scheduling pleasant events. An increase in the level and range of his activities should lead to an improvement in mood and motivation.

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Cognitive Behavioural Therapy

Which of the following statements are true of Cognitive Behavioural Therapy (CBT)?

a) CBT aims to assist the person with an anxiety disorder to understand the role that our thoughts play in increasing our level of anxiety. This helps them to understand that how you think affects how you feel, and that your emotions influence your behaviour

b) Relaxation and breathing control are often used as part of CBT to treat anxiety

c) CBT works best if used in conjunction with pharmacologic treatment

d) In CBT, people learn to change old thinking patterns and habits and condition their minds to think and respond differently

e) CBT works by teaching people to avoid whatever causes their anxiety

Answer on next page

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Cognitive Behavioural Therapy

Answer: a, b, d - It is true that CBT in conjunction with pharmacologic therapy is an effective treatment for anxiety for some people, but CBT alone has been shown to be equally effective. However, people whose anxiety or depressive symptoms are severe enough to limit their motivation for or committment to CBT, may benefit from combined therapy. CBT does not teach patients to avoid their triggers for anxiety, but to recognise the thought patterns that cause problems and train the mind to think and respond differently. This, in turn, effects emotions and behaviour.

Dietitian

I noted the OT/RN assessments stating that Mr Tanner was still having difficulty eating and holding cups/cutlery with his right hand when tested on an unmodified texture, regular diet, thus he would benefit from staying on the soft diet.

Food and fluid charts show he is consuming a nutritionally adequate diet and fluids. He is having no problems with his bowels. The biochemistry and blood sugar results are unchanged.

When I spoke with the Tanners, Mr Tanner appeared to be communicating slightly better although he did get frustrated at times. I ensured that time was taken to allow him to speak when he wished to. Mr Tanner appeared accepting of the hospital diet and liked the independence that a soft diet provided, as he did not have to constantly rely on assistance. He appeared motivated to continue with the eating plan and was pleased that he had lost weight. Although a lower mood and increasing frustration have been reported by other members of the team, it is fortunate that this has not extended to Mr Tanners eating.

I began education regarding dietary changes with Mr and Mrs Tanner. Mrs Tanner reported that she had always cooked for Mr Tanner (who cannot boil an egg) and that the required dietary changes would not be too much of a burden for her to undertake. As many dietary changes were required, I kept the information as simple and concise as possible and provided written information/diet sheets. I also mentioned that Meals on Wheels were able to deliver meals for diabetic patients that can be texture modified and provided information about this service.

The social worker mentioned that she was organising HACC transport, so I requested that this include food shopping. I informed the social worker that I had provided meals on wheels information, but that Mrs Tanner had decided not to take-up that option yet.

Mr Tanner would benefit from continuing with the current diet plan.

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Week Three Team Meeting

Welcome to the Multi-disciplinary team meeting for week three of Mr Tanner's rehabilitation.

Mr Tanner has been re-assessed using the Barthel Index - as shown on the next page.

Review of Mr Tanner's physical measures
Physical Measures
Wt=90.4kg

Biochemistry
Urea, Creatinine & Electrolytes – normal
Full Blood Count - normal

BGL measured on ward daily
0600hrs fasting: 5.1-6.5
1230hrs before lunch: 6.0-7.0
1800hrs before dinner: 5.3-6.7
2000hrs: 8.3-9.7mmol/L

Please consult team members to hear about Mr Tanner's progress.

After reviewing each assessment, you will progress through the reports of the multidisciplinary team.

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Week Three Team Meeting

THE BARTHEL INDEX

Patient Name: George Tanner
Rater Name: Wendy Carmichael
Date: 1/3/2009

Activity	Score
FEEDING 0 = unable 5 = needs help cutting, spreading butter, etc., or requires modified diet 10 = independent	5
BATHING 0 = dependent 5 = independent (or in shower)	5
GROOMING 0 = needs to help with personal care 5 = independent face/hair/teeth/shaving (implements provided)	0
DRESSING 0 = dependent 5 = needs help but can do about half unaided 10 = independent (including buttons, zips, laces, etc.)	5
BOWELS 0 = incontinent (or needs to be given enemas) 5 = occasional accident 10 = continent	10
BLADDER 0 = incontinent, or catheterized and unable to manage alone 5 = occasional accident 10 = continent	10
TOILET USE 0 = dependent 5 = needs some help, but can do something alone 10 = independent (on and off, dressing, wiping)	10
TRANSFERS (BED TO CHAIR AND BACK) 0 = unable, no sitting balance 5 = major help (one or two people, physical), can sit 10 = minor help (verbal or physical) 15 = independent	15
MOBILITY (ON LEVEL SURFACES) 0 = immobile or < 50 yards 5 = wheelchair independent, including corners, > 50 yards 10 = walks with help of one person (verbal or physical) > 50 yards 15 = independent (but may use any aid; for example, stick) > 50 yards	15
STAIRS 0 = unable 5 = needs help (verbal, physical, carrying aid) 10 = independent	5
TOTAL (0–100):	80

Physiotherapist


Physiotherapist

Mr Tanner's shoulder pain is much improved following intra-articular pain relief. I will continue to see him three times per week for intensive physio aimed at maximising his right arm and hand function for two more weeks now that he is able to tolerate more treatment. I anticipate that Mr T will recover assistive function of his right arm but will be unlikely at this stage to make a full recovery. He is becoming increasingly competent using his left hand for many activities of daily living.

I will then transition him to neurology outpatients to supervise his progress over the next few months. In addition I have referred him to the Community Physiotherapy Service where he will attend a weekly exercise class supervised by a physiotherapist with the aim of increasing his exercise tolerance and confidence mobilising in the community. This group session also has the advantage of providing some social support for Mr T and his wife as the other participants are all stroke survivors and live his area.

Do you know what the likelihood is of recovering full function in the stroke affected arm, if deficits are still present at 3 weeks?

In those with complete paralysis initially after stroke, as few as 5% regain full arm function (Gowland C 1993);(Richards and Pohl 1999).

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Interventions to improve arm function

Which of the following interventions have been shown to be most effective in improving arm function in people with some residual movement?

a) Neurodevelopmental therapy (Bobath)
b) Mirror box therapy
c) Virtual reality training
d) Robotic assisted training
e) Constraint induced movement therapy
f) Mental practice
g) Bimanual training
h) Electrical muscle stimulation
i) Repetitive task training

Answer on next page

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Interventions to improve arm function

Answers: d, e, i

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Occupational Therapist

Occupational Therapist

Due to intensive rehabilitation therapy, Mr Tanner has made good progress. However, he is still having some troubling pain in the right shoulder and difficulties in using his right hand. Consequently, there are a number of tasks that he still finds difficult to complete without help. These include doing up buttons, holding heavy items and cutting up meals. There are a number of other tasks that he is learning to do left-handed, such as brushing his teeth and using the kettle. The dentist will keep a close eye on dental hygiene to ensure that Mr Tanner takes well to left-handed brushing!

I am confident that with Mrs Tanner's help, Mr Tanner will be able to safely remain at home at the end of rehabilitation. He is largely independent and only requires assistance with small tasks.

Functional Independence Aids

Are there any other options, apart from asking for assistance, that may help Mr Tanner to become more independent in bilateral tasks, such as fastening buttons and cutting his food?

a) Yes
b) No

Answer on next page

Functional Independence Aids

Answer: a - Yes! The OT can review Mr Tanner and recommend the use of small aids such as modified cutlery and plates, and a button hook. He can use these until his right hand improves or may have to use these permanently if dexterity does not progress.

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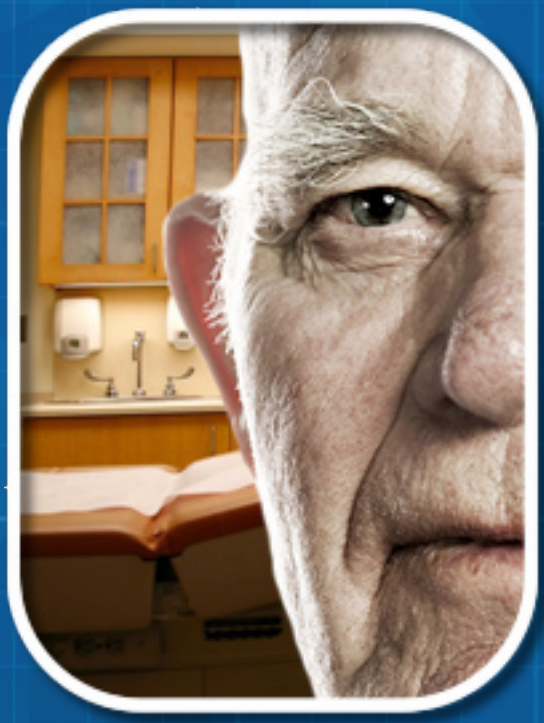
Speech Pathologist

Speech Pathologist

Mr Tanner's dysphasia continues to improve and he now experiences only occasional word finding difficulties and hesitations, especially when under time pressure. His communication is now very functional and he is able to access the community and use the telephone with minimal support. I have made a plan to transition Mr Tanner to weekly outpatient reviews from next week. I am confident that he can continue to improve his functional communication and level of participation and independence in the community, with the support of his wife and continued completion of his home exercise program.



Speech Pathology Goals

What Speech Pathology related goals would be appropriate for Mr Tanner to target at this stage of his rehabilitation? Review the goals below and select those that you feel are appropriate goals for Mr Tanner.

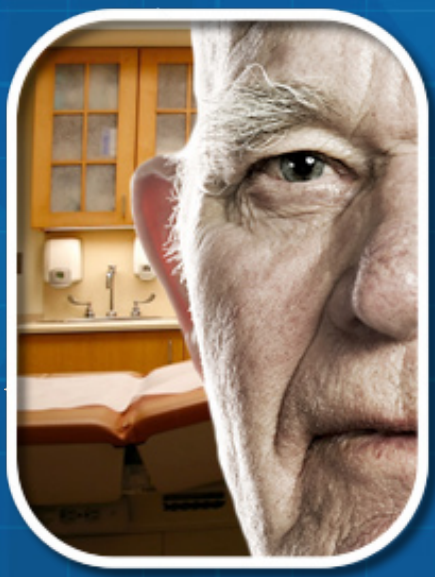
a) To be able to make more complex phone enquiries with offline planning (scripting or thinking about what questions he will ask & what information he requires before making the call & jotting down some notes)

b) To join a social club and practice engaging in social interaction

c) To be able to request a bus ticket independently using a communication card (cue card with the destina tion written down & the type of ticket he requires to assist word finding)

d) To develop and practice using a range of communication scripts or cue cards to increase confidence making requests in the community (e.g. key words & phrases for ordering lunch at a café, buying a lotto ticket, going to the hairdresser)

Answer on next page



Speech Pathology Goals

Answers: a, b, c, d - All of these examples would be appropriate as they aim to facilitate the success of Mr Tanner's speech, word finding and interaction in "real life" situations. The more Mr Tanner practices communicating in the community, the more confident he will become and the better his speech will be. Cognitive load and stress can increase word finding difficulties and speech breakdown... so being prepared, practicing using strategies, & building confidence is the key. His monthly sessions with his Speech Pathologist could focus on monitoring his progress towards these goals & identifying other strategies that might help or different "situations" he wants to target to achieve his functional activity and leisure goals.

General Practitioner

General Practitioner

Mr Tanner's blood pressure continues to improve and is now down to 130/86. Pain relief by way of an intra-articular injection of local anaesthetic appears to have been helpful in alleviating his right shoulder pain. We will re-assess in 3 months time to review need for an additional injection. His warfarin dose is now stable, and at present we are checking his INR every 2 weeks.

I am confident that Mr Tanner's health has stabilised and he appears to have adopted the advice regarding dietary and life-style changes to reduce risk of future stroke.

I am going to speak with his GP to hand over long term control of Mr Tanner's risk factors and to fill her in on the advice we have given Mr Tanner regarding his shoulder.

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Ongoing Medical Care

Regarding Mr Tanners ongoing medical care, which of the following statements are most applicable?

Mr Tanner is likely to adhere to his medical therapy because it was started in hospital
Possibly, but given that in the majority of patients, non-concordance with prescribed therapies is very high, his use of medicines needs to be reviewed regularly.

Warfarin therapy should now be life long. It's important to emphasise to Mr and Mrs Tanner that it should never be stopped
Generally anticoagulant therapy would be long term. However therapy should be reviewed if Mr Tanner's risk of bleeding complications changes.

As he'd "basically be a vegetable" Mr Tanner should not be referred back to hospital if another stroke occurs
Recovery from a major illness presents an opportunity to review patients' wishes for future medical care. In Western Australia, a new legal framework is now in place.

Mr Tanner is now stable, so he shouldn't require monitoring of his antihypertensive or statin therapy
People on long term medical therapy often warrant some monitoring. For example renal function would be checked periodically in someone on long term ACE inhibitor therapy. Similar cautions apply to statins in relation to LFTs.

Stroke is so common that the GP will not need any further help from the rehab team
Stroke is common, but GPs often appreciate ongoing contact with hospital teams to support the patient's ambulatory care. Patients may be frustrated if they perceive the connection between the hospital and their GP as inefficient.

Nurse

Nurse

Mr Tanner is sleeping better after learning the meditation techniques. His wife bought him a small CD player and he enjoys listening to relaxation music and/or guided meditation CD's when he is feeling uncomfortable.

His hand troubles persist, but he is able to mobilise well and can now hold a knife adequately but has trouble cutting with it. He still gets quite frustrated at the simple things he can't do, but overall does appear to be coping better with his limitations.

He does, however, seem anxious about how he will cope at completion of rehabilitation, how his friend's will react to his 'disability' and whether he will ever get normal use of his hand back.

HACC services will continue but I think when rehab is over Mrs Tanner will be able to set Mr Tanner up in the mornings – he will be able to do most things for himself. I don't think ongoing personal care assistance will be needed, although I do feel it is worth the carers continuing for another couple of weeks, to make sure that good habits are reinforced. As discussed with the OT and physio, the carers are mainly providing supervision now. Actual hands on assistance is very light.

Nursing Advice

Given his anxieties, which of the advice below might the nurse give Mr Tanner at this stage?

Following stroke there is sometimes slow but prolonged recovery
Yes, many survivors of brain injury describe slow and gradual improvements. These may occur because of neuroplasticity.

Anxiety is best managed by "getting on with it" and "throwing yourself in the deep end", there's no use worrying about it!
Some people like a "straight forward" approach. However, many people with impairments and anxiety about new situations will appreciate planning how they will cope. This might include physical practice, mental rehearsals or role play in a safe environment.

Although not recommended for long term use for insomnia, a hypnotic-sedative could be used short-term
Yes, benzodiazepines are sometimes a useful short term adjunct for people with very severe anxieties. However for most people the disadvantages of benzo therapy outweigh any benefits.

Don't think about your hand - you will get depressed if you do
Depression is a real risk in the recovery from brain injury. However most rehab teams would try to prompt the client to develop more adaptive strategies than simply ignoring the injury.

Sometimes it can be helpful to talk to other people who have had a stroke. Would you like me to link you up with a support group?
There are a variety of support networks in most metropolitan areas. However, it is a very good idea to check with Mr Tanner prior to referral as individual patients respond differently to that sort of environment. The Stroke Foundation offers support people locally, and also provides online information for people who have had a stroke.

http://www.strokefoundation.com.au/life-after-stroke

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Clinical Psychologist

Mr Tanner is anxious about on-going functional limitations and about how his friends will react to seeing him. He is embarrassed that he can't do all the things he used to and is worried people might treat him differently if they see him as an 'invalid'. He is also concerned about the risk of having another stroke and facing further disability or even death.

I have been using CBT techniques to target Mr Tanner's anxieties. He has been encouraged to use a 'thoughts diary' to self-monitor his thinking patterns with the intent of reinforcing and prompting the process of identifying and challenging negative thinking.

Mr Tanner may also benefit from attending a support group to provide him with an opportunity to share his experience, find some mutual support and decrease any social isolation. I have recommended local support groups and will ask the social worker to follow-up with Mr and Mrs Tanner should they wish to pursue this.

He will continue to see me once a fortnight over the next few months to continue his treatment, during which time I will closely monitor his mood and also any increases in anxiety. No medication is warranted at this stage.

Effects of meditation

Which of the following are evidence-based health effects of meditation?

a) Decreased stress, anxiety and insomnia
b) Decreased blood pressure
c) Increased immune response
d) Increased ability to cope with pain
e) None of the above

Answer on next page

Effects of meditation

Answer: e

The correct answer is none of the above. While all of the health effects mentioned are reported benefits of meditation, and there are emerging studies in support of these (see resources), at this stage there is no unequivocal scientific evidence that conclusively proves that meditation has a lasting or quantifiable impact on health. However, thousands of years of practice in Eastern cultures, along with anecdotal and emerging research evidence lend credence to the value of meditation in promoting health and well-being. Certainly, meditation has been proven to have a measurable effect on the body, lowering heart and respiration rate and altering brainwave patterns to induce a deep sense of relaxation, but the benefits of this practice to people suffering from serious health conditions requires further research before a solid evidence base can be established. This is not to say that meditation has no place in modern medical care. Meditation is widely prescribed and used in clinical practice to treat a range of health conditions, including anxiety, depression, panic-disorders, addiction, insomnia and cancer, among many others. Many people report positive effects and it may just be a matter of time before these effects can be quantified in Western scientific terms. Clinical findings from the Benson-Henry Institute for Mind-Body Medicine at Harvard medical School report that 80% of hypertensive patients lowered their blood pressure through meditation. Reported benefits from other studies include relieved symptoms of insomnia, relief from chronic pain and better post-operative recovery from heart surgery. http://www.massgeneral.org/bhi/ However, the reproducability of these results needs to be established before a secure evidence base can be founded.

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Dietitian

Physical Measures Wt=90.4kg

Biochemistry Urea, Creatinine & Electrolytes – normal Full Blood Count - normal

BGL measured on ward daily

0600hrs fasting: 5.1-6.5 1230hrs before lunch: 6.0-7.0
1800hrs before dinner: 5.3-6.7 2000hrs: 8.3-9.7mmol/L

Mr Tanner's biochemistry results and BGL were virtually unchanged. He is achieving a good rate of weight loss (recommended rate of loss =0.5-1.0kg/week). Waist circumference is measured monthly (recommended rate of loss =1-4cm/month). It is likely that Mr Tanner's BGL/lipids will not improve until he loses further weight e.g. at least a 5-10% loss.

The dietary plan/information for Mr Tanner was reviewed with Mr and Mrs Tanner. Mrs Tanner is still keen to cook the prescribed diet at home, but has kept the meals on wheels information in case she needs this in the future. Mr Tanner is looking forward to a beer when he gets home, but has agreed to restrict this to <2 standard drinks/day and to include at least 2 alcohol free days per week. He was disappointed at what he perceived as a slow rate of weight loss, so I reassured him that a loss of losing 0.5-1.0kg/week is a good rate of loss and that it is best to focus on eating and activity goals rather than weight-related goals. I have provided handover to the local dietitian in his area so he can continue to receive dietetic input after discharge.

Dieraty issues discussed/sheets provided include:

1) Soft diet options
2) Reducing salt intake (processed foods, label reading, etc)
3) Increasing vegetable intake at lunch, dinner and snack times
4) Reducing saturated fat intake (meat fats, dairy fats, processed foods)
5) Reducing total fat (restrict amounts of olive/canola oil in cooking, sterol based margarine, avocado, nuts, etc)
6) Eating fish 2-3 times per week and taking 4x regular fish oil capsules daily to lower triglyceride levels and reduce cardiovascular risk
7) Reducing sugar intake (no sugar containing beverages, desserts, etc)
8) Low glycaemic index CHO choices (sweet potato, porridge, etc)
9) Limit alcohol intake to ≤2 standard drinks per day for men and include at least 2 alcohol free days per week
10) Initial weight target is 5-10% loss (to 81-85kg) at 0.5-1.0kg/week and a waist circumference loss of 1-4cm/month

Note Mr Tanner dislikes snacks and eats his main meal at lunchtime.

See the next page for Mr Tanner's sample Meal Plan 6000kJ (1500kcal)

Dietitian

Meal Plan 6000kJ (1500kcal)

Number of serves allowed per day

Food Group / Serves Per Day	One serve is equal to:	
Breads & cereals **4 serves per day**	1 slice bread ¾ cup cereal or porridge ½ cup cooked rice, pasta	2 crispbread 15 small rice crackers 1 small scone or slice plain cake
Vegetables to limit **2 serves per day**	1 small potato ½ cup potato salad made with low fat dressing/oil	½ cup cooked corn, peas, parsnip, sweet potato ¾ cup thick vegetable and bean soup
Other vegetables & salad **As desired**	N/A	N/A
Fruit **2 serves per day**	1 small/medium piece fruit ½ cup fruit juice	½ cup canned/stewed fruit
Milk & milk products **3 serves per day**	200ml low fat milk 200ml low fat yoghurt 25g or 1 slice low fat cheese	200ml calcium fortified soy milk or yoghurt
Meat & meat alternatives **3 serves per day**	50g lean meat/chicken 60g fish 1 egg	1/3 cup baked beans/ legumes
Extras **2 serves per day**	10g or 2 tspn margarine/ oil	

6000kJ (1500kCal) Meal Plan: soft, low in total and saturated fat and sugar, high in fibre with low GI foods included, a low salt diet, with CHO portions controlled and spaced regularly over the day.

Dietitian

Breakfast: Water

1. 1 ½ cups cereal (e.g. Guardian flakes, cooked porridge, All Ban Fruit 'N Oats) + 1 cup low fat milk (e.g. skim, Pura Tone, Pura Light Start) + ½ cup stewed/canned fruit (e.g. apple, natural juice drained)

OR

2. 1 low fat pancake (see recipe) topped with 1 serve fruit (e.g. 1 banana, 1 cup strawberries) + 200g pot low fat vanilla yoghurt or Fruche

Morning Snack: Water +/- 1C tea

Lunch: Water

- 1 palm-sized serve (100g) lean meat / chicken / fish
- 1 cup cooked basmati rice / pasta / mashed sweet potato/creamed corn / 2 small potatoes
- ½ plate non-starchy vegetables/salad (e.g. cauliflower, broccoli, zucchini, pumpkin,)
- E.g. casserole, meat & vegetables/roast dinner/vegetable frittata or omelette, curry, stir fry

AND

- 1 cup low fat custard / 2 scoops low fat ice cream/ 200g low fat/diet yoghurt or Fruche + diet jelly +/- ½ cup stewed/tinned fruit / 1 cup soft fresh fruit

Afternoon Snack: Water +/- 1C tea

Dinner: Water

- Thick soup (split pea + ham /minestrone/garden vegetable with soup mix) + 1 slice bread

OR

3. *(maximum twice weekly)* 2 eggs (poached, scrambled, omelette) +grilled chopped tomato + chopped mushrooms + ½ cup baked beans +/- other vegetables 1 slice bread (e.g. Vogels Honey and Oat, Burgen Soy and Linseed)

OR

4. 2 slices lean ham / 50-100g sardines grilled chopped tomato / mushrooms / pumpkin / eggplant +/- other vegetables 2 slices bread (e.g. Vogels Honey and Oat, Burgen Soy and Linseed)

OR

- Low fat quiche + chopped, steamed vegetables + 1 cup mashed sweet potato

AND

- 200g low fat/diet yoghurt or Fruche / Skinny Cow ice cream stick /1 cup low fat custard / 2 scoops low fat ice cream

Supper: Water
(If no dessert) 1 cup hot milk

References

(1) Dietitians Association of Australia and The Speech Pathology Association of Australia Ltd. Texture modified foods and thickened fluids as used for individuals with dysphagia: Australian standardised labels and definitions. Journal of The Dietitians Association of Australia 2007;64 (suppl2): S53-76.
(2) Stratton RJ, Green CJ, Elia M. Disease related malnutrition: an evidence-based approach to treatment. Wallingford: CABI Publishing, 2003.
(3) Dietitians Association of Australia. Evidence based practice guidelines for the nutritional management of malnutrition in adult patients across the continuum of care. Journal of The Dietitians Association of Australia 2009;66 (supp3): S4-10.

Pharmacist

I have seen Mr Tanner and explained each of his medications and what they have been prescribed for. We also discussed the importance of adherence to medication in decreasing risk of future strokes. I've handed over to his community pharmacy to make sure that the asasantin supply ceases and that his warfarin supply is correct.

Mr Tanner's current medications are Simvastatin 20mg od and Warfarin 2mg daily.

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Concerns regarding statin therapy

In regards to statin therapy, which of the following statements are true?

Mr Tanner needs to be very cautious because of the long term risk of memory problems
Mrs Tanner has indeed read lay media reports regarding several high profile case reports of memory loss which were highly publicised (http://www.telegraph.co.uk/health/4974840/Wonder-drug-that-stole-my-memory.html). However statins have been used very widely and the risk of many adverse effects is lower than that associated with placebo treatments.

Statin myopathy usually is apparent in the first few weeks of treatment
In fact, myopathy can occur even after long term treatment and should be considered in any statin treated patient presenting with muscle problems.

Usually mucle symptoms will prove to eb unrelated to statin therapy
This is true – diagnosis of possible statin muscle damage can be difficult in the absence of a specific diagnostic test available.

The need for dietary therapy is obviated
No – diet and exercise remain the first line treatments.

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Neurological Rehabilitation Clinic

Mr Tanner attends the Neurological rehabilitation clinic/post Stroke clinic 3 months later.

Please see the next page for Mr Tanner's final Barthel index assessment.

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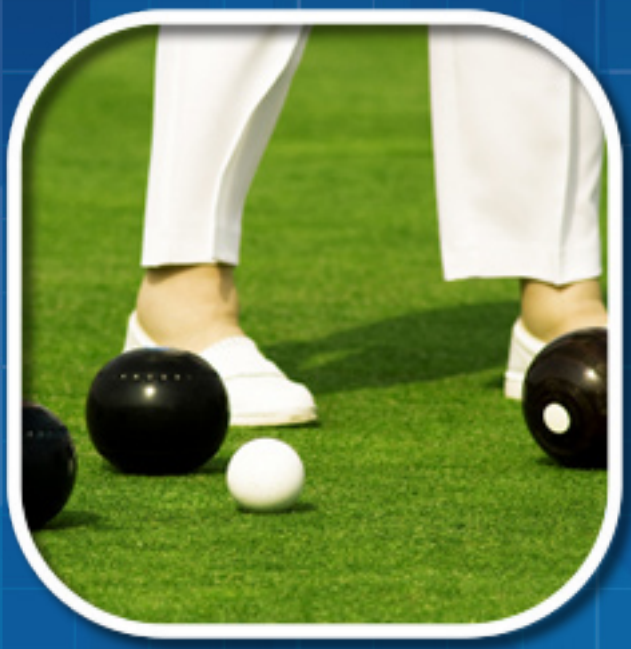
Neurological Rehabilitation Clinic

THE BARTHEL INDEX

Patient Name: George Tanner
Rater Name: Wendy Carmichael
Date: 9/3/2009

Activity	Score
FEEDING 0 = unable 5 = needs help cutting, spreading butter, etc., or requires modified diet 10 = independent	5
BATHING 0 = dependent 5 = independent (or in shower)	5
GROOMING 0 = needs to help with personal care 5 = independent face/hair/teeth/shaving (implements provided)	5
DRESSING 0 = dependent 5 = needs help but can do about half unaided 10 = independent (including buttons, zips, laces, etc.)	5
BOWELS 0 = incontinent (or needs to be given enemas) 5 = occasional accident 10 = continent	10
BLADDER 0 = incontinent, or catheterized and unable to manage alone 5 = occasional accident 10 = continent	10
TOILET USE 0 = dependent 5 = needs some help, but can do something alone 10 = independent (on and off, dressing, wiping)	10
TRANSFERS (BED TO CHAIR AND BACK) 0 = unable, no sitting balance 5 = major help (one or two people, physical), can sit 10 = minor help (verbal or physical) 15 = independent	15
MOBILITY (ON LEVEL SURFACES) 0 = immobile or < 50 yards 5 = wheelchair independent, including corners, > 50 yards 10 = walks with help of one person (verbal or physical) > 50 yards 15 = independent (but may use any aid; for example, stick) > 50 yards	15
STAIRS 0 = unable 5 = needs help (verbal, physical, carrying aid) 10 = independent	10
TOTAL (0–100):	90

Case Summary



Three months post discharge, Mr Tanner's health has continued to improve. Happily, he passed his driving test, although his car required modifications to enable him to safely continue driving.

He still has some weakness in his right hand, which makes some tasks difficult. However, Mr Tanner has accommodated for this well and Mrs Tanner helps him with the simple tasks that his hand prevents him from completing. Mr Tanner is overjoyed that while he has difficulty holding a cup, he can still manage a bowling ball!

Mr Tanner adhered to dietary advice and has lost 5kg. He is also walking regularly and has significantly reduced his alcohol intake. He now only has one or two light beers on bowls days and otherwise doesn't drink any alcohol at all.

Mr Tanner's blood pressure is well controlled at 125/85 and his mood has improved and stabilised without medication.