AusTOMs for Physiotherapy


This work is based on the first edition of the AusTOMs for Physiotherapy:

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Acknowledgement

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Professor Pam Enderby assisted the research team at La Trobe University in the application to the Commonwealth to support this project. Both Professor Enderby and Dr Alexandra John from Sheffield University, United Kingdom, were associate researchers to this project, providing the Research Team with advice, discussion and support in this development of the AusTOMs.
**Chapter One**

**Introduction and Background to the AusTOMs**

Measuring outcomes using the AusTOMs

We have developed the AusTOMs to measure therapy outcomes for physiotherapists, occupational therapists and speech pathologists. Outcome measures are an important part of quality assurance and service improvement. Outcome data can show areas that need improvement, as well as areas of particular strength within a service. This manual provides you with training and information so that you can use the AusTOMs for Physiotherapy scales.

The AusTOMs are not an assessment tool, but are designed to provide a snapshot rating that broadly reflects a client's status across four domains of health and functioning (discussed in the next chapter). Unlike some outcome measures, the AusTOMs are rated by you, the clinician, not clients. You make a rating based on your clinical judgment, using your knowledge of the client and how they are functioning. Of course, this includes your discussion with the client and carer about their concerns and areas of difficulty.

Background to the AusTOMs Project

Although developed in Australia, the AusTOMs have been designed for international use. The AusTOMs are based on the Therapy Outcome Measures (TOM), published in the UK by Professor Pam Enderby and Dr Alex John (Enderby & John, 1997; Enderby, John, & Petherham, 1998) and concepts of health as outlined by the World Health Organisation (WHO) in the International Classification of Functioning, Disability, and Health (ICF) (WHO, 2001). The ICF is a taxonomy of the consequences of disease and provides a useful organising framework for therapists to identify where to focus their outcomes research.

The ICF organizes information in two sections, the first part deals with Functioning and Disability (further divided into the components of Body Functions and Structures, and Activities and Participation), while the second covers contextual factors (further divided into environmental and personal factors). In this system, clinicians can think about their client's problems and the kinds of therapy needed in relation to body function and structure (impairment), ability to do activities (activity limitation), and participation (participation restriction) (WHO, 2001). Drawing on this structure, the domains measured on the AusTOMs scales are Impairment, Activity Limitation and Participation Restriction.
Participation Restrtion. The concept of Distress/Wellbeing is embedded in the ICF. However, Enderby and John (1997), drew out this concept as a distinct domain since therapy often aims to alleviate distress and promote wellbeing in both clients and their careers. AusTOMs also includes rating the client’s Distress/Wellbeing as part of the measures.

The World Health Organisation also developed the International Statistical Classification of Diseases and Health Related Problems (10th Edition). The ICD-10 (WHO, 2004) provides a classification of diseases, disorders and other health conditions and complements the ICF. AusTOMs data can be collected along with a client’s ICD-10 code/s to provide contextual information about the client's diseases and other health problems.

Process to develop the scales
The AusTOMs scales were developed and refined over two years. Documentation concerning development can be found in Perry et al (2004). The following process was used:

- The team at La Trobe University reviewed the TOM scales and in discussion with clinicians decided to develop AusTOMs scales
  - for the three professions and
  - that could be used both in Australia and internationally,

- We developed an AusTOMs core scale on which to base the occupational therapy, physiotherapy and speech pathology scales (see pages. 7 & 8),

- We held focus groups with occupational therapists, physiotherapists and speech pathologists in Victoria to develop occupation or disorder-specific scales for each profession,

- We sent these draft scales to clinicians across Australia for review and feedback,

- We revised the scales for each profession on the basis of clinicians’ comments and then re-sent them to clinicians for further feedback, and

- We tested the final scales in a six month data collection phase to determine their reliability and validity (see Chapter 7).

- We published several articles on the AusTOMs scales (refer to the Reference List) and three AusTOMs kits (including scales and manual), one for occupational therapy, physiotherapy, and speech pathology. The AusTOMs comprise 12 occupational therapy scales, 9 for physiotherapy scales, and 6 for speech pathology scales.

The 12 AusTOMs for Occupational Therapy scales are:

- Scale 1. Learning and Applying Knowledge
- Scale 2. Functional Walking and Mobility
- Scale 3. Upper Limb Use
- Scale 4. Carrying Out Daily Life Tasks and Routines
- Scale 5. Transfers
- Scale 6. Using Transport
- Scale 7. Self Care
- Scale 8. Domestic Life—Home
- Scale 9. Domestic Life—Managing Resources
- Scale 10. Interpersonal Interactions and Relationships
- Scale 11. Work, Employment and Education
- Scale 12. Community Life, Recreation, Leisure and Play

The 6 AusTOMs for Speech Pathology scales are:

- Speech
- Language
- Voice
- Fluency
- Swallowing
- Cognitive-communication

The 9 AusTOMs for Physiotherapy scales are:

- Scale 1. Balance and Postural Control
- Scale 2. Cardiovascular System Related Functions
- Scale 3. Musculoskeletal Movement Related Functions
- Scale 4. Neurological Movement Related Functions
- Scale 5. Pain
- Scale 6. Respiratory System Functions
- Scale 7. Sensory Functions
- Scale 8. Skin Functions
- Scale 9. Urinary and Bowel Continence

We derived these areas from the International Classification of Functioning, Disability and Health (WHO, 2001), and consultation with occupational therapists, speech pathologists and physiotherapists.

Changes in the second edition of AusTOMs for Physiotherapy
The first edition of the AusTOMs for Physiotherapy kit was published in 2004 and is being used across Australia and around the world in the UK, Sweden, the USA, Canada, and New Zealand. The second edition has been updated by Professor Carolyn Unsworth, developer of the AusTOMs for Occupational Therapy. In the second edition,
the AusTOMs for Physiotherapy scales remain unchanged. However, there are several additions to the manual such as:

- extra case study examples from clinicians around the world,
- additional ‘Question and Answer’ information,
- ICD-10 codes (WHO, 2004) which replace the original aetiology and disorder codes (Enderby, John, & Petherham, 1998), and
- an updated reference list

Feedback
The AusTOMs for Physiotherapy is an evolving tool. If you would like to comment on a scale, find out more about current research or are currently gathering outcome data using the AusTOMs for Physiotherapy, we would love to hear from you. Please email C.Unsworth@latrobe.edu.au to provide feedback.

CHAPTER TWO

AusTOMs Domains

We have based the AusTOMs scales on a common core scale, shown as Appendix A (p. 35). All of the disorder-specific scales in each profession were developed from this core scale, meaning that scales across disorders and across professions are comparable. There are four domains in the core scale, which become the four domains to be assessed in each of the profession-specific scales: Impairment, Activity Limitation, Participation Restriction, and Distress/Wellbeing. We based the first three of these domains on the International Classification of Functioning, Disability and Health (ICF) (WHO, 2001). Distress/Wellbeing was developed as clinicians felt that this domain—part of the UK Therapy Outcome Measures—was also relevant to Australian clinical practice.

Impairment and Activity Limitation
The Impairment and Activity Limitation domains of the AusTOMs are disorder-specific. We have developed descriptions of a range of behaviours or factors that illustrate the levels of difficulty that clients experience related to their disorder.

The Impairment domain describes structural (anatomical) or functional (physiological or psychological) difficulties that a client may have. For example, an impairment of body structure could include a fracture to a bone, while an impairment of body function could include difficulty walking. When rating the Impairment domain, you need to consider all the impairments the client currently experiences and the severity of these compared to all other clients.

The Activity Limitation domain measures a client’s level of ability and difficulty in performing activities. When a client experiences difficulties in the performance or execution of a task, he or she is experiencing an activity limitation. For example, a client with impaired muscle coordination after a stroke may have difficulty with the activity of walking; a client with muscle paralysis due to spina bifida may have difficulty sitting independently.

Participation Restriction and Distress/Wellbeing
The Participation Restriction and Distress/Wellbeing domains are identical across all scales. These domains are not related to each scale (for example the clients level of distress/wellbeing is not just related to ‘Pain as rated on Scale 5), but are global constructs related to all areas of the client’s life. Therefore, when making a rating for a
client using the AusTOMs, you will only need to rate the Participation Restriction and Distress/Wellbeing domains once, even if you are using several AusTOMs scales for that client. Assess these domains each time you set goals and evaluate goal outcomes. For example, a therapist conducts the usual admission initial interview and assessments with the client. The therapist then sets two goals to work on with the client and rates the client on the relevant AusTOMs scales. On the score sheet for admission, the therapist will provide a unique score for the domains of Impairment and Activity Limitation for both of the scales. However, only one rating will be made for each of the Participation Restriction and Distress/Wellbeing domains and this will be filled in for both scales. As mentioned above, this is because an individual’s Participation Restriction and Distress/Wellbeing don’t just relate to his/her pain or balance and postural control. Rather, Participation Restriction and Distress/Wellbeing are global constructs.

When you choose more than one scale to rate your client, you need to rate the Impairment and Activity Limitation domains for each scale, however, you rate the Participation Restriction and Distress/Wellbeing domains only once.

The Participation Restriction domain examines, overall, the limitation that a client may experience in real-life, daily situations. Such limitations include roles within vocational, educational, and social contexts. For example, a baker who sustained burns to his hands cannot work while he recovers. This is a restriction of his vocational role. An individual’s participation in an activity is facilitated or restricted by a range of individual, environmental and societal issues. The Participation Restriction domain considers an individual’s overall ability to participate, given the facilitators and barriers in place (see below). These facilitators and barriers also affect a client’s impairment and activity limitation (e.g., medication for Parkinson’s Disease impacts on a person’s performance at both impairment and activity levels).

A facilitator is any person or item that assists the client to participate. For example, medication, a teacher’s aide for a child with a physical disability, a carer who assists the client to dress, an alternative communication device such as a Lightwriter, or a community service such as Meals on Wheels (WHO, 2001).

A barrier is anything that may impede a client’s participation. For example, an older person who cannot leave home without assistance, a child who cannot participate in some class activities without one-to-one assistance, a client who chooses not to participate in an activity, or a client who has poor self-esteem or self-worth (WHO 2001).

The Distress/Wellbeing domain describes a client’s level of concern. Concern may be evidenced by anger, frustration, apathy or depression. The AusTOMs scales also allow you to rate the distress/wellbeing of a carer (for example, a parent). You can rate a carer’s level of distress/wellbeing if you anticipate that this will be an area that you will target in the client’s episode of care. For example, when the client is a young child (and therapy may be directed toward the parent), or when you spend time on counselling and advising carers, a rating of the carer’s level of distress/wellbeing may be appropriate.

Always rate a domain appropriate to the age of the client. For example, in the Participation Restriction domain, a lack of autonomy is not an indication of restriction for a still dependent child.

AusTOMs core scales
The following core scales provide the basis for scoring the four AusTOMs domains. Descriptions have been added to the Impairment and Activity Limitation core scales for each of the 9 AusTOMs for Physiotherapy scales. Use the spiral bound book of AusTOMs for Physiotherapy scales when rating clients.

Impairment of either Structure or Function (as appropriate to age):
Impairments are problems in body structure (anatomical) or function (physiological) as a deviation or loss.

0  - The most severe presentation of impairment
1  - Severe presentation of this impairment
2  - Moderate/severe presentation
3  - Moderate presentation
4  - Mild presentation
5  - No impairment of structure or function

Activity Limitation (as appropriate to age):
Activity limitation results from the difficulty in the performance of an activity. Activity is the execution of a task by the individual.

0  - Complete limitation
1  - Severe limitation
2  - Moderate/severe limitation
3  - Moderate limitation
4  - Mild limitation
5  - No limitation

Participation Restriction (as appropriate to age):
Participation restrictions difficulties the individual may have in the manner or extent of involvement in their life situation. Clinicians should ask themselves “given their problem, is this individual experiencing disadvantage?”

0  - Unable to fulfill social, work, educational or family roles. No social integration.
    No involvement in decision-making. No control over environment. Unable to reach potential in any situation.
1  - Severe restriction in fulfilling social, work, educational or family roles.
    Very limited social integration. Very limited involvement in decision-making. Very little control over environment. Can only rarely reach potential with maximum assistance.
2  - Moderately severe restriction in fulfilling social, work, educational or family roles. Limited social integration. Limited involvement in decision-making. Control over environment in one setting only. Usually reaches potential with maximum assistance.
3 - Moderate restriction in fulfilling social, work, educational or family roles. Relies on moderate assistance for social integration. Limited involvement in decision-making. Control over environment in more than one setting. Always reaches potential with maximum assistance and sometimes reaches potential without assistance.

4 - Mild restriction in fulfilling social, work, educational or family roles. Needs little assistance for social integration and decision-making. Control over environment in more than one setting. Reaches potential with little assistance.

5 - No restriction in fulfilling social, work, educational or family roles. No assistance required for social integration or decision-making. Control over environment in all settings. Reaches potential with no assistance.

Distress/Wellbeing (as appropriate to age):
The level of concern experienced by the individual. Concern may be evidenced by anger, frustration, apathy, depression etc.

0 - High and consistent levels of distress or concern.

1 - Severe concern, becomes distressed or concerned easily. Requires constant reassurance. Loses emotional control easily.

2 - Moderately severe concern. Frequent emotional encouragement and reassurance required.

3 - Moderate concern. May be able to manage emotions at times, although may require some encouragement.

4 - Mild concern. Able to manage emotions in most situations. Occasional emotional support or encouragement needed.

5 - Able to cope with most situations. Accepts and understands own limitations.

**Chapter Three**

**User’s Guide**

**Selecting clients to score using the AusTOMs**

You can collect AusTOMs data on clients who are receiving physiotherapy services over a period of time. You cannot collect outcome data on clients who attend therapy only once, for example, to receive advice alone, unless there is a follow-up appointment or audit survey to see whether the advice has influenced any of the domains.

You can rate clients of any age and with any diagnosis using the AusTOMs scales.

**Selecting scales**

We have not designed the AusTOMs scales to provide diagnostic assessment or to help guide management strategies for a particular client. Rather, we have designed them to evaluate the overall effects of physiotherapy across an episode of care. The scales do not reflect aetiologies, but therapeutic goals. For example, there is no “stroke” scale. If a person has a stroke and you are providing therapy with the aim of improving voluntary initiation of grasp, then you will use the Neurological Movement Related Functions scale. Similarly, if you are working with a child who has a third degree burn, use the Skin Functions scale. If you are working with a woman who has urinary incontinence, use the Urinary and Bowel Continence scale.

You can rate a client on more than one AusTOMs scale. For example, when your therapeutic goal is only to improve a client’s neurological movement related problems then you would just choose the scale that relates to this area. However, if you have several goals, such as to improve balance and decrease neurological movement related problems you would need to rate the client on two scales to reflect the outcome of your intervention (i.e., the Balance and Postural Control, and Neurological Movement Related Functions scales). Similarly, if you have a client with pain and sensory impairments, and it is possible that you may work on one or both of these areas during a period of therapy, you will need to make an initial rating on both scales relating to these areas, even if you do not plan to target both areas immediately.

**When to make a rating**

Make an initial rating after you have assessed a client at the beginning of an episode of care and set your physiotherapy goals. In the case of clients who are seen before elective surgery, the episode of care will commence at the first session following the surgical procedure.
You may make an interim rating if you wish. This may be appropriate for clients in long-
term therapy, where you regularly re-assess the client and set new goals. We recommend
that services specify and standardise the time at which an interim rating is made, for
example every six months.

You make a final rating at the end of an episode of care. An episode of care is the total
period of your physiotherapy intervention. The end of an episode of care could be when
the client is to be discharged, put on review, transferred from inpatient to outpatient
service, or when you change the goals of therapy.

How to make a rating
The domains of the AusTOMs are independent; each domain is rated separately,
according to the client’s abilities and difficulties relating to that domain. If you chose
one scale only, you need to make a rating of your client’s abilities and difficulties for all
four domains. However, when you choose more than one scale for a client, you need to
rate the Impairment and Activity Limitation domains for each scale, and rate the client’s
Participation Restriction and Distress/Wellbeing only once.
The AusTOMs include the option to rate the Distress/Wellbeing domain for carers, in
addition to clients. We recommend that you make use of this option if you are targeting
the distress/wellbeing of a carer, for example through informational counselling

How to choose scale points
Each domain of the AusTOMs scales has six levels (0-5), where 0 represents “complete
difficulty” in each domain, and 5 represents “no difficulty”. The descriptions at each
point are designed to reflect that level; they are unlikely to fit any particular client
perfectly. They merely provide descriptions of a range of behaviours or factors you
can consider in order to judge the severity of the impact of the disorder on a client’s
performance. All descriptors for each domain need not be present for you to give a
client that rating. Match the client to the description that is the best fit, despite the client
not having all the factors listed or having other factors that are not listed.

Make a rating according to the "best fit" with the scale descriptions, according to
your knowledge about the client at that time.

You are able to use half points. For example, if the impact of a disorder on a client is
more severe than a rating of 2, but not quite as severe as a rating of 1, you can score 1.5.
Rate severity in the Impairment domain by taking a global snapshot based on your
clinical judgement. Some of the things that might influence your global snapshot are:

- the degree of the impairment (e.g., a person with a stroke who has a completely
  paretic arm);
- the number of different impairments the person has (e.g., a person with a
  fractured neck of femur with poor quadriceps control, decreased range of hip
  and knee motion and pain over the surgical incision when attempting to move);
- the number of body parts or the percentage of the body affected (e.g., a child
  with full thickness burns to 20% of the body);
- the amount of time the impairment is present (e.g., a child with asthma who has
  required hospital admissions on five occasions over the past 12 months).

Similarly, rate severity within the Activity Limitation domain by taking a global
snapshot based on your clinical judgement. Some of the things that might influence this
rating are:

- the degree of limitation (e.g., a child with cerebral palsy (spastic quadriplegia)
  who is unable to walk at all with or without assistive devices);
- the number of different limitations a client has (e.g., a person with back pain may
  have difficulty putting on shoes, be unable to sit for more than 10 minutes and
  walk in a slow and guarded manner);
- the amount of time the limitation is present (e.g., a person with Parkinson’s
  disease may be able to prepare a meal only during the “on” phase of medication);
- the number of different environments in which the limitation is evident (e.g., a
  client can walk independently and safely in the physiotherapy department, yet
  cannot walk around at home or at the supermarket).

The following figure shows the scores that can be awarded for AusTOMs for
physiotherapy.

<table>
<thead>
<tr>
<th>Profound</th>
<th>Severe</th>
<th>Severe to Moderate</th>
<th>Moderate</th>
<th>Mild</th>
<th>No difficulty</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>.5</td>
<td>1</td>
<td>1.5</td>
<td>2</td>
<td>2.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td>3.5</td>
<td>4</td>
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<td></td>
<td></td>
<td></td>
<td>4.5</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

Figure 1: The continuum of scores for the AusTOMs scales.
The flowchart below provides a visual guide of when to make ratings for the AusTOMs for physiotherapy.

**Summary of the procedure for using the AusTOMs for Physiotherapy**

- **Initial (admission) ratings**
  - On the basis of your assessment, select AusTOMs for Physiotherapy scales that reflect the client’s main areas of difficulty.

- **Interim ratings**
  - At discharge from your intervention, use the same scales selected for your admission rating(s).

- **Final (discharge) ratings**
  - At re-assessment and/or change of goals, use the same scales you selected for your admission rating. You can make as many interim ratings as necessary.

  - **Impairment and Activity Limitation**—rate each scale chosen
  - **Participation and Distress/Wellbeing**—rate once per client at each time point
  - **Carer Distress/Wellbeing (optional)**—rate once per client at each time point

An initial and a final rating, using the same scales, are necessary to measure a client’s outcome.

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**CHAPTER FOUR**

**Scoring Tips and Frequently asked Questions**

**A. Scoring tips**

**Ammending a score**

If during the course of an episode of therapy new information becomes available that suggests the wrong scale point was chosen at the beginning, you may amend the rating retrospectively.

**B. Frequently asked Questions**

1. **Is it appropriate to use the AusTOMs when clients have deteriorating conditions?**

   Sometimes clients’ conditions may be expected to deteriorate over time. This means that their initial score on the AusTOMs may be better than their interim or final scores. You may feel that this shows a negative effect in terms of your therapy input. Make sure that outcome scores are reported in terms of the condition/aetiology, so that negative changes over time can be seen in context. As data are collected, you may be able to see which therapy is more effective in slowing progression of disorders in people with progressive conditions, to document the expected deterioration for particular disorders over time, and to see whether therapy has any positive effect (e.g., in terms of the client or carer’s Distress/Wellbeing scores).

   If you are working with a client with a deteriorating condition, consider your goals for the client. For example, you might be trying to introduce strategies to facilitate independent mobility; in this case the client’s Impairment score may decrease (as the condition deteriorates), but the Activity Limitation score may stay the same. This is an important and positive outcome to document.

2. **Why/when would I include a rating of carer Distress/Wellbeing?**

   A rating the Distress/Wellbeing domain in relation to carers is optional. We recommend you use this rating when you have set goals regarding the distress/wellbeing of carers, and you wish to record an outcome in this area. (Note. Ratings of Distress/Wellbeing of...
carers have not been fully assessed in relation to reliability to date. We plan to assess this aspect of reliability in the future).

3. What happens if another therapist implements treatment after I have assessed a client?
Although it is preferable for the same therapist to perform ratings at the beginning and end of an episode of care, it is possible for another therapist who is familiar with the AusTOMs to make interim and/or final ratings, if necessary. We recommend that ratings of client status be made by clinicians that have been involved in the client’s assessment/treatment, so that the rating is an accurate reflection of the client’s true abilities.

4. What if a client is discharged or leaves therapy before a final rating is made?
As with any outcome measure, the AusTOMs require at least two ratings (initial and final). Therefore, when the client is discharged, you need to rate each domain. You may need to make the rating by reflecting on the client’s status at the time of discharge, or at the time that you last saw the client. You could note (using a discharge code) that the client has left the service before optimal discharge from therapy, if that is the case. Example discharge codes are shown in chapter 8. If it is not possible to make a final rating, then you may need to discard the client’s rating from the data, or note it as an incomplete case.

5. What if a client is only seen for an assessment?
If a client is only seen once (for assessment/screening), you do not need a rating of outcome. The exception is when a client is seen for reviews where you have some goals in mind—formal or informal—for the client to achieve (see below).

6. What if the client is being seen only for reviews?
You can use the AusTOMs with clients who are seen for progress reviews, for example those who have been given a home programme or suggestions to follow. Make the initial rating at assessment, and the final rating at discharge from the service. Review sessions provide a good opportunity to make interim ratings of client progress if you wish.

7. Is it possible to use the austoms to determine if therapy has caused the improvement in my client?
The AusTOMs is like any outcome measure; it can show that change in client status has occurred, but it cannot attribute the change to any particular factor such as therapy. In order to determine what has produced the change, you need to conduct research that can control for factors such as spontaneous recovery or the involvement of family, to show that therapy has been responsible for the client’s improvement. For example, you could use the AusTOMs as part of a randomized controlled trial (RCT) to show that improvements in client status are due to therapy and not other factors.

8. Can I use the AusTOMs in paediatric populations?
You can use the AusTOMs to rate outcome for infants and children. However, when rating each of the domains, take your client’s age into account. For example, in the Participation Restriction domain it would not be relevant to consider a lack of autonomy as an indication of restriction for a young girl, who would not normally be expected to make all of her own decisions. Similarly, it is not appropriate to consider work roles for children.
Six practice cases are included for you to practice all the AusTOMs for Physiotherapy scales. Some cases require you to score one scale, or other require you to score two. We have organised the first two cases to help you determine which information you should score in relation to the four domains of Impairment, Activity Limitation, Participation Restriction and Distress/Wellbeing. Chapter 6 provides suggested answers and discussion points.

**Case 1:**
**Scale 3. Musculoskeletal Movement Related Functions**

**Background**
Angelo is a 76 year old man. He fractured his right tibia four days ago following a fall from a ladder when cleaning the leaves out of the spouting. An external fixation device is in place. Prior to this injury Angelo was a very active man who participated in many social interests. He lives in a semi-detached house (four steps at the front, three steps at the back) with his single son. The physiotherapist is seeing Angelo in hospital for his decreased general mobility and to assist in discharge planning.

**Impairment**
There is reduced range of motion of right ankle dorsiflexion, with the range limited to 5 degrees from plantigrade. The pin sites of the external fixation device are clean and dry. He has close to full range of motion at the right knee and can straight leg raise the right leg with minimal quadriceps lag. His pain is well controlled with oral analgesics.

**Activity Limitation**
Angelo is mobilising independently non-weight-bearing with a walking frame for about 25 metres. He transfers independently from bed and chair and dresses himself. He has started practising mobilising with axillary crutches but requires close supervision, and has been unable to go up steps.

**Participation Restriction**
Angelo relates well to others. His injury has reduced his confidence. He is scared that he is going to fall again. He is concerned about how he will cope when discharged home. Before the fall he used to do most of the cooking for he and his son, and go out to the shops and to a club, but thinks that he will have to put these activities on hold for a while.

**Distress/Wellbeing**
Angelo is co-operative with his exercise program and remains fairly optimistic most of the time. However, he is “a bit frustrated” because he is finding it difficult to learn how to use crutches.

Write your scores in the Table below.

**Scale 3: Musculoskeletal Movement Related Functions**

<table>
<thead>
<tr>
<th>Impairment</th>
<th>Activity Limitation</th>
<th>Participation Restriction</th>
<th>Distress/Wellbeing</th>
</tr>
</thead>
</table>

**Case 2:**
**Scale 4. Neurological Movement Related Functions**

**Background**
Sheila is a 67 year old widow. She lives at home with her 28 year old son while another son lives interstate with his family. Sheila had a right hemiparetic stroke six months ago and was admitted to hospital for 10 days, after which she was judged fit enough to return home. She attends twice-weekly physiotherapy sessions held at the outpatient rehabilitation unit.

**Impairment**
Sheila can voluntarily move her left upper and lower limb, but her movements are slow, inaccurate and limited in range. She has mild sensory loss, a mild degree of spasticity and a moderate amount of soft tissue stiffness, muscle weakness and incoordination on the left side of her body.

**Activity Limitation**
With the aid of her four-point walking frame Sheila is able to walk short distances independently around the physiotherapy department and at home. However, Sheila tires quickly and is very slow. She cannot walk in confined spaces, where there are crowds or on uneven or sloping terrain. She can go to the toilet independently, but requires physical assistance with cutting her food and dressing. Her son says she needs frequently
to encourage her to perform everyday tasks by herself and she no longer performs any household tasks.

**Participation Restriction**
Sheila is restricted in many areas. She is unable to handle her paperwork or finances. Sheila now lacks confidence and cannot, for example, go shopping any more without assistance. She has a reduced social life as she cannot drive herself places to visit her friends, and relies heavily on her son to take her places.

**Distress/Wellbeing**
Sheila constantly worries about her son, who was going to leave home before she had her stroke and now has stayed to take care of her. Sheila feels devastated that she had the stroke and says that she is “more sensitive to things” for example she cries very easily and becomes very upset at minor changes in routine.

Write your scores in the Table below.

**Scale 4: Neurological Movement Related Functions**

<table>
<thead>
<tr>
<th>Impairment</th>
<th>Activity Limitation</th>
<th>Participation Restriction</th>
<th>Distress/Wellbeing</th>
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William is a 9 year old boy who was admitted to hospital with asthma 2 days ago. This is his fifth admission in the past year. He is the younger of two children; his sister is 15 years old.

William is extremely breathless while in bed and is moving about minimally. He cannot speak without becoming breathless; he cannot perform any activities himself. A bronchodilator is being administered continuously by nebulizer and he is being given 60%O2 via a face mask. He has been on systemic corticosteroids since admission. There is wheezing on expiration, a tight cough and his breathing are shallow and laboured. Small plugs of sputum which is sticky and tenacious are being coughed up.

William is very tired and frightened. He is silently crying much of the time. He clings to his mother and will not allow her to leave him for any time. In between these attacks his mother says that William is a happy sociable boy with many friends at school.

William's parents are extremely anxious, the asthma attacks seem to be occurring more frequently and they are not being controlled by medication. The parents are keen to get advice on how to avoid these attacks and they are determined to get an answer. They are quite irritable with the doctors and nurses providing care to their son.

Write your scores in the Table below.

**Scale 6: Respiratory System Functions**

<table>
<thead>
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**Scale 6. Respiratory System Functions**

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**Scale 5. Pain**

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activities of daily living such as brushing his teeth and toileting independently. However, requires quite a bit of assistance with bathing and dressing.

Scale 5: Pain

<table>
<thead>
<tr>
<th>Impairment</th>
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Scale 8: Skin Functions

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</table>

Case 5:

**Scale 1. Balance and Postural Control**

**Scale 7. Sensory Functions**

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Background

Mr. Nguyen is 55 and has a severe brain injury following a motor vehicle accident. He has just been transferred to the rehabilitation unit and physiotherapy assessments have been completed. Before his accident, Mr. Nguyen lived with his wife who has not visited him since his admission to rehabilitation 2 weeks ago. Hence there are concerns about his discharge destination based on both his functional status and social situation. It is not yet clear how much information Mr Nguyen is able to process, and the speech therapist is working on establishing a reliable Yes/No response to commence assessment. It is difficult to determine the level of distress Mr. Nguyen is experiencing, and whether this is due to his brain injury. He is not distressed all the time, but hits out frequently at staff, vocalises loudly and cries two to three times a day. He is not fulfilling any of his roles and is not interacting in an appropriate manner with staff at this stage.

Mr Nguyen is currently totally wheelchair dependent and is not expected to return to walking. He is currently giving very minimal assistance to complete his ADLs, for example he is not opening his mouth for teeth cleansing. Two therapists are currently required for all transfers. Given this situation the physiotherapist has commenced work on developing postural stability so that he can maintain his position in the wheelchair, as he can currently only sit unsupported for 3 to 2 minutes on a plinth with no back support, and cannot stand unless fully supported by 2 people. The therapist is also working towards normalising tone, balance reactions and provide sensory stimulation. At this stage, Mr. Nguyen has a very severe sensory loss. He responds to pain sensation by limb withdrawal, and has an inconsistent response to people talking to him and placing themselves in his visual field.

Scale 1: Balance and Postural Control

<table>
<thead>
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Scale 7: Sensory Functions

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</table>

Case 6:

**Scale 2. Cardiovascular Systems Related Functions**

**Scale 8. Urinary and Bowel Continence**

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c.unsworth@latrobe.edu.au

Background

Ela is 84 and is happy to be discharged to her single story unit following five days in acute care following a heart attack and a further four weeks in slow stream rehabilitation. Though Ela was initially distressed by her heart attack she became more cheerful throughout her stay in the sub-acute ward, and although her routines have been altered she has managed well within the new environment. The Physiotherapist at the rehabilitation service is now ready to make the discharge AusTOMs for PT scores. Ela was admitted with chest and arm pain and shortness of breath. Her angina and cardiac function is currently controlled with daily medication. The Physiotherapist has guided her through a graded walking and exercise program emphasising self-pacing of activity. Ela has made as much improvement as can be expected, but still experiences mild chest pain, breathlessness as well as some mild dizziness after walking on flat ground for over 10 minutes. She can very slowly manage a flight of 12 stairs though...
she usually has cardiac symptoms and has to rest for several minutes before her symptoms settle.

Ela’s health and vitality had been in general decline over the previous 6 months prior to her admission. Her daughter had noticed Ela’s unit was not as well kept, and she was less interested in food preparation. Her daughter had also reported that there was often a strong smell of urine in her bedroom and that she was possibly wetting the bed several times a week.

When on the rehabilitation ward, it was found that Ela was experiencing urinary incontinence when getting out of bed to go to the toilet, and the rehabilitation physician also diagnosed a moderate bladder prolapse. She was placed on a routine toileting schedule, and encouraged to manage her urge to urinate frequently during the day to improve her control. The physiotherapist taught Ela exercises to strengthen her pelvic floor muscles. These approaches have been very successful, and Ela now experiences only very occasional accidents (one in the past fortnight).

Discharge arrangements have been made, and Ela’s daughter will take her home tomorrow. She was previously receiving some elements of a home care package including assistance with cleaning and shopping, and this package has now been expanded to include physiotherapy visits twice per week for the first 6 weeks, meals on wheels daily and personal care assistance to assist with bathing three times per week. Ella is really looking forward to being in her own home, and has been in very good spirits and very willing to accept these additional supports to ensure she has a successful transition home. Her daughter has been managing Ella’s finance for several years, and she will continue to assume this role.

Scale 2: Cardiovascular Systems Related Functions

<table>
<thead>
<tr>
<th>Impairment</th>
<th>Activity Limitation</th>
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<th>Distress/Wellbeing</th>
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Scale 8: Urinary and Bowel Continence

<table>
<thead>
<tr>
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<td>SAME</td>
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CHAPTER SIX

Answers and Discussion Points

This chapter includes suggested answers and discussion points for the six practice case studies. Scoring written cases is actually more difficult than scoring real clients, since you can make more informed AusTOMs ratings about clients you know. It is acceptable for your scores to deviate from these suggestions by 0.5 of a point. For example, with a suggested rating of 2.5, ratings of 2.0 or 3.0 are also acceptable.

Case 1:
Scale 3. Musculoskeletal Movement Related Function

Impairment
Angelo has a moderate impairment because the fracture of his tibia means that he has severe involvement of one body part. However, he has purposeful movement of the affected body part, making his impairment moderate.

Activity Limitation
His limitation in activity is moderate, as he can mobilise independently with his frame in the supported environment of the hospital. In addition he can transfer and complete self-care tasks independently.

Participation Restriction
In this domain, Angelo has moderately severe difficulties in fulfilling societal roles. He is not yet safe to be discharged home from hospital so he has control over environment in one setting only.

Distress/Wellbeing
Angelo shows mild concern as he remains cooperative and optimistic, and would require only occasional emotional support for his mild frustration at finding it difficult to learn to use crutches.

Case 2:
Scale 4. Neurological Movement Related Functions

Impairment
Sheila has moderate impairment. She has purposeful movements of her affected limbs yet movement speed efficiency and range are affected. The involvement of her two affected limbs is not severe, so she scores 3 rather than 2 for the Impairment domain.

Activity Limitation
Although Sheila can complete some tasks independently in supported environments, such as walking with her four-point walking frame for a short distance and going to the toilet, she requires physical assistance to cut food and for dressing, and requires prompting from her son to complete many tasks. This description lies between a moderately severe and moderate Activity Limitation (2.5).

Participation Restriction
Sheila’s societal participation is moderately severely restricted so she scores 2. She has limited involvement in decision making, and is very reliant on her son. There is no evidence that she can reach her participation potential without assistance.

Distress/Wellbeing
Sheila demonstrates severe concern; she worries constantly, cries very easily and becomes upset at minor changes in routine, and is scored as 1 on this domain.

Scale 3: Musculoskeletal Movement Related Functions

<table>
<thead>
<tr>
<th>Domain</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impairment</td>
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</tr>
<tr>
<td>Activity Limitation</td>
<td>3</td>
</tr>
<tr>
<td>Participation Restriction</td>
<td>2</td>
</tr>
<tr>
<td>Distress/Wellbeing</td>
<td>4</td>
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Scale 4: Neurological Movement Related Functions

<table>
<thead>
<tr>
<th>Domain</th>
<th>Rating</th>
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<tbody>
<tr>
<td>Impairment</td>
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</tr>
<tr>
<td>Activity Limitation</td>
<td>2.5</td>
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<tr>
<td>Participation Restriction</td>
<td>2</td>
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<tr>
<td>Distress/Wellbeing</td>
<td>1</td>
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</tbody>
</table>
Case 3:
Scale 6. Respiratory System Functions

Impairment
William has a moderately severe impairment, requiring continuous oxygen and bronchodilator support. He scores 2.

Activity Limitation
His activity is severely limited. He is extremely breathless while in bed, has difficulty speaking and requires maximal help to perform all activities. William scores 1 for this domain.

Participation Restriction
William's involvement in decision making is very limited and he relies and depends heavily on his mother. He scores 0.5. He does not score 0 since he is still responding to his mother by clinging to her and not allowing her to leave.

Distress/Wellbeing
William displays high and consistent levels of distress—he is frightened and cries much of the time. He scores 0. His parents are severely concerned about William. They both lose emotional control easily and become irritable with the doctors and nurses providing care for their son. A rating of the distress of William's carers is appropriate, as it is likely that physiotherapy goals would relate to reducing their level of distress. Carer Distress/Wellbeing has been rated as 1.

Scale 6: Respiratory System Functions

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<thead>
<tr>
<th></th>
<th>Score</th>
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<tbody>
<tr>
<td>Impairment</td>
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</tr>
<tr>
<td>Activity Limitation</td>
<td>1</td>
</tr>
<tr>
<td>Participation Restriction</td>
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<tr>
<td>Distress/Wellbeing</td>
<td>0</td>
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<tr>
<td>Carer Distress/Wellbeing</td>
<td>1</td>
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Case 4:
Scale 5. Pain
Scale 8. Skin Functions

Impairment
Peter has severe single limb burns, which means he scores a 3 for Skin Functions. However, he is experiencing moderately severe pain which means he scores a 2 for the impairment domain on the Pain Scale.

Activity Limitation
Since Peter needs physical assistance to complete some activities such as dressing and bathing, but manages other more simple tasks independently, Peter scores a 2.

Participation Restriction
Peter scores a 3 overall. He has moderately severe difficulties in fulfilling roles, but he has control over his environment in more than one setting, and is involved in decision making.

Distress/Wellbeing
Peter scores 1 for this domain as he requires constant reassurance and loses emotional control easily.

Scale 5: Pain

<table>
<thead>
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<tbody>
<tr>
<td>Impairment</td>
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<tr>
<td>Activity Limitation</td>
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<tr>
<td>Distress/Wellbeing</td>
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Scale 8: Skin Functions

<table>
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Case 5:
Scale 1. Balance and Postural Control
Scale 7. Sensory Functions

Impairment
As Mr. Nguyen experiences a very severe impairment, he scores a 1 for Balance and Postural Control. He has constant and severe disruption to balance and posture so that he can only maintain sitting balance for very short times of 1-2 minutes, and cannot maintain standing balance at all. He scores higher than 0 because he can sit unsupported for 1-2 minutes, but cannot score a 2 because he cannot sit for five minutes, and has no standing balance at all. The score for Sensory functions is also a 1 because he does have some sensory responses that are appropriate (therefore placing him above a 0), but he could not score a 2 because he has sensory disturbances across all sensory systems all the time.

Activity Limitation
Mr Nguyen scores 0 for activity limitation for both scales as he is not able to perform any ADLs. He is totally wheelchair dependent and requires 2 people for transfers.
He would not score a 1 since he requires full assistance with all activities of daily living, and a physical restraint to sit upright more than ‘often’.

**Participation Restriction**

He is not able to fulfil any of his roles and experiences complete disadvantage, and therefore scores a 0 for participation.

**Distress/Wellbeing**

Mr. Nguyen is very distressed as evidenced by hitting at staff and vocalising, but he is not distressed all the time (which would mean he would score 0). He cries several times a day and therefore, he scores a 1.

**Scale 1: Balance and Postural Control**

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**Scale 7: Sensory Functions**

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**Case 6:**

**Scale 2. Cardiovascular Systems Related Functions**

**Scale 8. Urinary and Bowel Continence**

**Impairment**

For Urinary and Bowel Incontinence, Ela only experienced bladder problems and these have now largely resolved. Therefore she scores a 4. Since her angina and cardiac function is controlled with regular medication, she scores a 3 for Cardiovascular Systems Related Functions.

**Activity Limitation**

Since Ela has only experienced very occasional wetting, she scores a 4 for Urinary and Bowel Incontinence. Ela scores a 3 for Cardiovascular Systems Related Functions as she experiences mild chest pain, breathlessness as well as some mild dizziness, on moderate exertion (walking for 10 minutes or climbing a flight of stairs).

**Participation Restriction**

Ella scores a 3 as she has moderate difficulty in managing roles, and being involved in decision making. She has been previously cooking for herself, but is not able to resume this role at present. She also requires assistance to go shopping and her daughter manages her finances. She can control her environment.

**Distress/Wellbeing**

Ella has a positive outlook, and is accepting of her limitations which means she needs to have an extended care package (and services coming to her home). Therefore, she scores a 5.

**Scale 2: Cardiovascular Systems Related Functions**

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**Scale 8: Urinary and Bowel Continence**

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Reliability and Validity of the AusTOMs for Physiotherapy Scales

This chapter of the manual provides you with an overview of the reliability and validity of the data that support the use of the AusTOMs scales. Reliability refers to the reproducibility of measurement whereas validity refers to the extent to which a measure captures the required information, is accurate, discriminates different levels of performance and relates to a strong theoretical construct. We are in the preliminary stages of measuring inter-rater reliability, retest reliability and validity.

Reliability

Inter-rater reliability

We have already examined inter-observer agreement between clinicians’ ratings for all scales (Morris et al., 2005). We obtained percentage agreement scores between clinicians for each domain of the AusTOMs following a training session in which we trained 150 speech pathology, occupational therapy and physiotherapy clinicians to use the AusTOMs scales and to establish competency in rating each domain. Panels of experts prepared the written case vignettes we used to practise ratings on each scale. They also provided detailed descriptions of paediatric and adult clients frequently seen by allied health professionals. We determined retest-reliability of scores four-weeks after the initial training, by measuring the agreement between ratings made at training sessions, and ratings made at follow-up sessions for each therapist.

Physiotherapy: The Cardiovascular scale shows a high level of inter-observer agreement whereas most of the other physiotherapy scales contain at least one domain for which less than 80% of clinicians agreed on the rating (Morris et al., 2005). The AusTOMs team is now investigating the reasons why there are lower levels of agreement for these particular examples. We are exploring whether this is because we gave clinicians only one training session and they needed more practice to achieve higher levels of competency, or whether the way in which the vignettes were written affected the clinicians’ ability to provide the same rating consistently. We are also further examining the scales themselves to understand their measurement properties.

Occupational therapy: Inter-therapist agreement is high for the Learning and Applying Knowledge scale, the Upper Limb Use scale, and the Carrying Out Daily

Life Tasks and Routines scale (Morris et al., 2005). These scales are some of the most frequently selected in occupational therapy practice. Subsequent research has also shown the Self Care scale to have moderate to high inter-rater reliability with Intraclass Correlation Coefficients (ICC s) of over .79 for the three domains of Activity Limitation, Participation Restriction and Distress/Wellbeing, and over .70 for Impairment (Scott et al., 2004).

Speech pathology: To date, the Language and Fluency speech pathology scales show satisfactory inter-therapist agreement. Most other speech pathology scales show high levels of inter-rater agreement, although at least one domain has less than 80% agreement in each of the other scales (Morris et al., 2005), and the research team is further testing these.

Retest reliability

Across all of the AusTOMs scales, in the limited number of vignettes we analysed, we found retest reliability to be generally satisfactory (Morris et al., 2005). Nevertheless, some domains show agreement levels that are lower than 80%, indicating the need for further analysis. The next stage of validation involves measuring each clinician’s consistency scores across different time intervals (e.g., 1, 4, 6 and 10 weeks) and using videotapes of clients in addition to written vignettes in the testing process.

Validity

For detailed information on scale development and face validity, refer to Perry et al. (2004) and Unsworth et al., 2005.

Throughout the development of the AusTOMs tools, we closely involved those who will use the tool. Physiotherapy, occupational therapy and speech pathology clinicians across Australia made a large contribution to the development of the tool, in particular to the descriptors used at each level of the domains. Consumers (clients with disabilities, along with client advocates) reviewed the scales and made changes to the wording of the Participation Restriction and Distress/Wellbeing domains. Such involvement enhances the AusTOMs’ face validity.

We used clinicians’ ratings from a six-month period to examine the validity of the scales. The results show that the scales are able to discriminate change in client status over time (from admission to discharge).

The validity of a tool is never confirmed. Many studies are required over time to demonstrate that a tool is operating in the manner that developers intended. Future validity studies could investigate the ability of AusTOMs to predict client discharge data from admission status, and to discriminate between clients with differing impairment severity levels and activity limitations. Recent studies documenting the validity of the AusTOMs include Unsworth (2005), Unsworth (2008), Unsworth, Bearup & Rickard (2008), and Abu-Awad et al., (2013).

Updates on publications from the AusTOMs study will be available on the AusTOMs website: www.latrobe.edu.au/austoms.
Collecting contextual data along with AusTOMs data

To be able to use AusTOMs data for purposes such as monitoring or comparing service quality, you need to collect AusTOMs ratings alongside other data. This may include: client codes (e.g., UR number), ICD-10 codes to describe the disorder, number of sessions (or amount of contact/resources), type of treatment, therapist level (e.g., grade 1; senior) and many other variables. The variables (data) you collect alongside the AusTOMs will depend on the reason you are using the tool. For example:

- If you wish to examine/compare outcomes in relation to treatment types, you need to collect a code (or name) for the type of treatment. You may wish to indicate whether the treatment was group or individual, or what particular therapy type you used, depending on your question;
- If you wish to look at service efficiency, you will need to collect outcome data alongside an indicator of resource use, such as the amount of time that a clinician spends with each client;
- If you wish to make comparisons across centres (benchmarking), each centre needs to collect the same variables, and use comparable codes (e.g., ICD-10 codes, treatment type, and sessions/resources).

In each case, it is important that every clinician using codes (e.g., for treatment type) understands how they are to be used, and uses them reliably. This is not an exhaustive list of suggestions, and you will need to determine for yourself which variables are likely to be of interest to you to collect alongside AusTOMs data. You may already collect many of these variables (such as aetiology codes and number of contacts) within a statistics system in your workplace. In this case, it is ideal if the AusTOMs data can be added to this system, so that data are not collected twice.
### AusTOMs for Physiotherapy

**Data Collection Form**

**Physiotherapy scales used:**
- 1. 
- 2. 
- 3. 
- ICD-10 CODES:
- 1. 
- 2. 
- 3. 

**No. Physiotherapy sessions:** 5

#### AusTOMs Ratings

<table>
<thead>
<tr>
<th>Code</th>
<th>Impairment</th>
<th>Activity</th>
<th>Participation</th>
<th>Distress Client</th>
<th>Distress Carer</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>S2</td>
<td>S3</td>
<td>S1</td>
<td>S2</td>
<td>S3</td>
<td></td>
</tr>
</tbody>
</table>

**Reason for discharge (Please tick):**

1. Treatment complete  
2. Therapist ceased treatment  
3. Client did not attend  
4. Treatment stopped, transferred to other service  
5. Acute episode (further event) but remained at facility  
6. Treatment stopped, client self discharge  
7. Deceased  
8. Other (Specify)  

**Comments**

---

**Example:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Impairment</th>
<th>Activity</th>
<th>Participation</th>
<th>Distress Client</th>
<th>Distress Carer</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>6/8/14</td>
</tr>
<tr>
<td>F</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>12/8/14</td>
</tr>
</tbody>
</table>

*Code: A=Admission (after initial assessment and goal setting), I=Intermediate, F=Final, S=Scale*
ICD-10 Disorder Codes for use with AusTOMs for Physiotherapy

The following table provides a brief list of some of the common disorders that people present with when attending physiotherapy. It is not necessary to use these codes to collect AusTOMs data; we suggest that you only use these if you do not already have a system for collecting/recording disorder information for your clients. The level of coding needs to be tailored to your specific question. In the first edition of the AusTOMs for Physiotherapy, we included aetiology and disorder codes contained in the UK Therapy Outcome Measures manual (Enderby, John, & Petherham, 1998). However, in the interests of international comparison of data, it seems more appropriate to use the International Statistical Classification of Diseases and Health Related Problems (10th edition) (ICD-10) developed by the World Health Organisation (2004). Therapists will need to consult the full ICD-10 listings in order to code all the disorders that people present with when attending physiotherapy, and this can be accessed at: http://www.who.int/classifications/apps/icd/icd10online/. You may also find it useful to highlight the codes you use most frequently. At the end of this section is space for you to add other codes that describe clients’ disorders that you frequently encounter in your practice.

### Tuberculosis (A15-A19)
- A15 Respiratory tuberculosis, bacteriologically and histologically confirmed
- A16 Respiratory tuberculosis, not confirmed bacteriologically or histologically

### Viral infections of the central nervous system (A80-A89)
- A80 Acute poliomyelitis
- A83 Mosquito-borne viral encephalitis
- A84 Tick-borne viral encephalitis

### Malignant neoplasms (C00-C97)
- C15 Malignant neoplasm of oesophagus
- C16 Malignant neoplasm of stomach
- C17 Malignant neoplasm of small intestine
- C32 Malignant neoplasm of larynx
- C40 Malignant neoplasm of bone and articular cartilage of limbs
- C43 Malignant melanoma of skin
- C50 Malignant neoplasm of breast
- C70 Malignant neoplasm of meninges
- C71 Malignant neoplasm of brain
- C72 Malignant neoplasm of spinal cord, cranial nerves and other parts of central nervous system
- C73 Malignant neoplasm of thyroid gland

### Endocrine, nutritional and metabolic diseases (E00-E90)
- E10 Insulin-dependent diabetes mellitus
- E11 Non-insulin-dependent diabetes mellitus

### Organic, including symptomatic, mental disorders (F00-F09)
- F00.0 Dementia in Alzheimer’s disease with early onset (before age 65)
- F00.1 Dementia in Alzheimer’s disease with late onset (after age 65)
- F01 Vascular dementia
- F01.0 Vascular dementia of acute onset
- F01.1 Multi-infarct dementia
- F06.7 Mild cognitive disorder
- F07 Personality and behavioural disorders due to brain disease, damage and dysfunction
- F07.1 Postencephalitic syndrome
- F07.2 Postconcussional syndrome

### Mental and behavioural disorders due to psychoactive substance use (F10-F19)
- F10 Mental and behavioural disorders due to use of alcohol
- F11 Mental and behavioural disorders due to use of opioids
- F12 Mental and behavioural disorders due to use of cannabinoids
- F13 Mental and behavioural disorders due to use of sedatives or hypnotics
- F16 Mental and behavioural disorders due to use of hallucinogens
- F18 Mental and behavioural disorders due to use of volatile solvents
- F19 Mental and behavioural disorders due to multiple drug use and use of other psychoactive substances

### Schizophrenia, schizotypal and delusional disorders (F20-F29)
- F20 Schizophrenia
- F21 Schizotypal disorder
- F22 Persistent delusional disorders
- F23 Acute and transient psychotic disorders
- F24 Induced delusional disorder
- F25 Schizoaffective disorders

### Mood (affective) disorders (F30-F39)
- F30 Manic episode
- F31 Bipolar affective disorder
- F32 Depressive episode

---

**Endocrine, nutritional and metabolic diseases (E00-E90)**
- **E10** Insulin-dependent diabetes mellitus
- **E11** Non-insulin-dependent diabetes mellitus

**Organic, including symptomatic, mental disorders (F00-F09)**
- **F00.0** Dementia in Alzheimer’s disease with early onset (before age 65)
- **F00.1** Dementia in Alzheimer’s disease with late onset (after age 65)
- **F01** Vascular dementia
- **F01.0** Vascular dementia of acute onset
- **F01.1** Multi-infarct dementia
- **F06.7** Mild cognitive disorder
- **F07** Personality and behavioural disorders due to brain disease, damage and dysfunction
- **F07.1** Postencephalitic syndrome
- **F07.2** Postconcussional syndrome

**Mental and behavioural disorders due to psychoactive substance use (F10-F19)**
- **F10** Mental and behavioural disorders due to use of alcohol
- **F11** Mental and behavioural disorders due to use of opioids
- **F12** Mental and behavioural disorders due to use of cannabinoids
- **F13** Mental and behavioural disorders due to use of sedatives or hypnotics
- **F16** Mental and behavioural disorders due to use of hallucinogens
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**Schizophrenia, schizotypal and delusional disorders (F20-F29)**
- **F20** Schizophrenia
- **F21** Schizotypal disorder
- **F22** Persistent delusional disorders
- **F23** Acute and transient psychotic disorders
- **F24** Induced delusional disorder
- **F25** Schizoaffective disorders

**Mood (affective) disorders (F30-F39)**
- **F30** Manic episode
- **F31** Bipolar affective disorder
- **F32** Depressive episode
F33 Recurrent depressive disorder
F34 Persistent mood (affective) disorders

Neurotic, stress-related and somatoform disorders (F40-F48)
F40.0 Agoraphobia
F40.1 Social phobias
F41 Other anxiety disorders
F41.0 Panic disorder [episodic paroxysmal anxiety]
F41.1 Generalized anxiety disorder
F41.2 Mixed anxiety and depressive disorder
F42 Obsessive-compulsive disorder
F43 Reaction to severe stress, and adjustment disorders
F43.0 Acute stress reaction
F43.1 Post-traumatic stress disorder
F43.2 Adjustment disorders
F44 Dissociative [conversion] disorders
F45 Somatoform disorders

Behavioural syndromes associated with physiological disturbances and physical factors (F50-F59)
F50.0 Anorexia nervosa
F50.2 Bulimia nervosa
F53 Mental and behavioural disorders associated with the puerperium, not elsewhere classified [Post-natal depression]

Disorders of adult personality and behaviour (F60-F69)
F60.0 Paranoid personality disorder
F63 Habit and impulse disorders

Mental retardation (F70-F79)
F70 Mild mental retardation
F71 Moderate mental retardation
F72 Severe mental retardation
F73 Profound mental retardation

Disorders of psychological development (F80-F89)
F80 Specific developmental disorders of speech and language
F81 Specific developmental disorders of scholastic skills
F81.0 Specific reading disorder
F81.1 Specific spelling disorder
F81.2 Specific disorder of arithmetical skills
F81.3 Mixed disorder of scholastic skills
F82 Specific developmental disorder of motor function
F84.0 Childhood autism
F84.2 Rett's syndrome
F84.5 Asperger's syndrome

Diseases of the nervous system (G00-G99)
G00 Bacterial meningitis, not elsewhere classified
G01 Meningitis in bacterial diseases classified elsewhere
G04 Encephalitis, myelitis and encephalomyelitis
G10 Huntington's disease
G12.2 Motor neuron disease
G20 Parkinson's disease
G24 Dystonia
G35 Multiple sclerosis
G40 Epilepsy
G45 Transient cerebral ischaemic attacks and related syndromes [TIA]
G60.0 Hereditary motor and sensory neuropathy
G61.0 Guillain-Barré syndrome
G70.0 Myasthenia gravis
G71.0 Muscular dystrophy
G80.0 Spastic quadriplegic cerebral palsy
G80.1 Spastic diplegic cerebral palsy
G80.2 Spastic hemiplegic cerebral palsy
G80.4 Ataxic cerebral palsy
G81 Hemiplegia
G81.0 Flaccid hemiplegia
G81.1 Spastic hemiplegia
G82.0 Flaccid paraplegia
G82.1 Spastic paraplegia
G82.2 Paraplegia, unspecified
G82.3 Flaccid tetraplegia [quadriplegia]
G82.4 Spastic tetraplegia (quadriplegia)
G82.5 Tetraplegia (quadriplegia), unspecified

Glaucoma (H40-H42)
H40 Glaucoma

Visual disturbances and blindness (H53-H54)
H53 Visual disturbances
H54 Blindness and low vision

Diseases of the circulatory system (I00-I99)
I20 Angina pectoris
I21 Acute myocardial infarction
I25 Chronic ischaemic heart disease
I26 Pulmonary embolism
I60 Subarachnoid haemorrhage
I61 Intracerebral haemorrhage
I63 Cerebral infarction
I64 Stroke, not specified as haemorrhage or infarction

Diseases of the respiratory system (J00-J99)
J43 Emphysema
J44 Chronic obstructive pulmonary disease
J45 Asthma

Diseases of the musculoskeletal system and connective tissue (M00-M99)
M06 Rheumatoid arthritis
M08 Juvenile arthritis
M15 Polyarthrosis (Osteoarthritis)
M41 Scoliosis
M47 Spondylosis
M54.3 Sciatica
M54.5 Low back pain

Renal failure (N17-N19)
N17 Acute renal failure
N18 Chronic renal failure

Congenital malformations, deformations and chromosomal abnormalities (Q00-Q99)
Q00.0 Anencephaly
Q03 Congenital hydrocephalus
Q05 Spina bifida
Q65 Congenital deformities of hip
Q66 Congenital deformities of feet
Q67 Congenital musculoskeletal deformities of head, face, spine and chest
Q76 Congenital malformations of spine and bony thorax

General symptoms and signs (R50-R69)
R52.0 Acute pain
R52.1 Chronic intractable pain

Injuries to the head (S00-S09)
S00 Superficial injury of head
S01 Open wound of head
S02 Fracture of skull and facial bones
S04 Injury of cranial nerves
S06 Intracranial injury
S06.0 Concussion
S06.1 Traumatic cerebral oedema
S06.2 Diffuse brain injury
S06.3 Focal brain injury
S06.4 Epidural haemorrhage
S06.5 Traumatic subdural haemorrhage
S06.6 Traumatic subarachnoid haemorrhage
S06.7 Intracranial injury with prolonged coma

Injuries to the shoulder and upper arm (S40-S49)
S42 Fracture of shoulder and upper arm
S44 Injury of nerves at shoulder and upper arm level
S46 Injury of muscle and tendon at shoulder and upper arm level
S47 Crushing injury of shoulder and upper arm
S48 Traumatic amputation of shoulder and upper arm

Injuries to the elbow and forearm (S50-S59)
S52 Fracture of forearm
S54 Injury of nerves at forearm level
S55 Injury of blood vessels at forearm level
S56 Injury of muscle and tendon at forearm level
<table>
<thead>
<tr>
<th>S57</th>
<th>Crushing injury of forearm</th>
</tr>
</thead>
<tbody>
<tr>
<td>S58</td>
<td>Traumatic amputation of forearm</td>
</tr>
</tbody>
</table>

**Injuries to the wrist and hand (S60-S69)**

<table>
<thead>
<tr>
<th>S62</th>
<th>Fracture at wrist and hand level</th>
</tr>
</thead>
<tbody>
<tr>
<td>S63</td>
<td>Dislocation, sprain and strain of joints and ligaments at wrist and hand level</td>
</tr>
<tr>
<td>S63.1</td>
<td>Dislocation of finger</td>
</tr>
<tr>
<td>S63.5</td>
<td>Sprain and strain of wrist</td>
</tr>
<tr>
<td>S63.6</td>
<td>Sprain and strain of finger(s)</td>
</tr>
<tr>
<td>S64</td>
<td>Injury of nerves at wrist and hand level</td>
</tr>
<tr>
<td>S65</td>
<td>Injury of blood vessels at wrist and hand level</td>
</tr>
<tr>
<td>S66</td>
<td>Injury of muscle and tendon at wrist and hand level</td>
</tr>
<tr>
<td>S67</td>
<td>Crushing injury of wrist and hand</td>
</tr>
</tbody>
</table>

**Injuries to the hip and thigh (S70-S79)**

| S73  | Dislocation, sprain and strain of joint and ligaments of hip |

**Injuries to the knee and lower leg (S80-S89)**

<table>
<thead>
<tr>
<th>S82</th>
<th>Fracture of lower leg, including ankle</th>
</tr>
</thead>
<tbody>
<tr>
<td>S84</td>
<td>Injury of nerves at lower leg level</td>
</tr>
<tr>
<td>S88</td>
<td>Traumatic amputation of lower leg</td>
</tr>
</tbody>
</table>

**Injuries to the ankle and foot (S90-S99)**

| S98  | Traumatic amputation of ankle and foot |

**Burns and corrosions (T20-T32)**

<table>
<thead>
<tr>
<th>T20</th>
<th>Burn and corrosion of head and neck</th>
</tr>
</thead>
<tbody>
<tr>
<td>T21</td>
<td>Burn and corrosion of trunk</td>
</tr>
<tr>
<td>T22</td>
<td>Burn and corrosion of shoulder and upper limb, except wrist and hand</td>
</tr>
<tr>
<td>T23</td>
<td>Burn and corrosion of wrist and hand</td>
</tr>
<tr>
<td>T24</td>
<td>Burn and corrosion of hip and lower limb, except ankle and foot</td>
</tr>
<tr>
<td>T25</td>
<td>Burn and corrosion of ankle and foot</td>
</tr>
</tbody>
</table>

**Toxic effects of substances chiefly nonmedicinal as to source (T51-T65)**

<table>
<thead>
<tr>
<th>T51</th>
<th>Toxic effect of alcohol</th>
</tr>
</thead>
<tbody>
<tr>
<td>T52</td>
<td>Toxic effect of organic solvents</td>
</tr>
<tr>
<td>T53</td>
<td>Toxic effect of halogen derivatives of aliphatic and aromatic hydrocarbons</td>
</tr>
</tbody>
</table>

**Accidents (V01-X59)**

<table>
<thead>
<tr>
<th>V13</th>
<th>Pedal cyclist injured in collision with car, pick-up truck or van</th>
</tr>
</thead>
<tbody>
<tr>
<td>V23</td>
<td>Motorcycle rider injured in collision with car, pick-up truck or van</td>
</tr>
<tr>
<td>V43</td>
<td>Car occupant injured in collision with car, pick-up truck or van</td>
</tr>
<tr>
<td>V44</td>
<td>Car occupant injured in collision with heavy transport vehicle or bus</td>
</tr>
<tr>
<td>V53</td>
<td>Occupant of pick-up truck or van injured in collision with car, pick-up truck or van</td>
</tr>
<tr>
<td>W01</td>
<td>Fall on same level from slipping, tripping and stumbling</td>
</tr>
<tr>
<td>W09</td>
<td>Fall involving playground equipment</td>
</tr>
<tr>
<td>W10</td>
<td>Fall on and from stairs and steps</td>
</tr>
<tr>
<td>W11</td>
<td>Fall on and from ladder</td>
</tr>
<tr>
<td>W68</td>
<td>Drowning and submersion following fall into swimming-pool</td>
</tr>
<tr>
<td>W70</td>
<td>Drowning and submersion following fall into natural water</td>
</tr>
</tbody>
</table>

**Factors influencing health status and contact with health services (Z00-Z99)**

| Z89  | Acquired absence of limb (surgical or traumatic amputation) |
Additional ICD-10 disorder codes used in my practice

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
</table>

References


AusTOMs Website: www.latrobe.edu.au/austoms


Selection of additional references that comment on AusTOMs, or include AusTOMs in research:


Williams, Gavin. Therapy Outcomes TBI
Notes: