

# The Oxford Case Complexity Assessment Measure

## An introduction

This is the front page introducing the Oxford Case Complexity Assessment Measure. Its original reference is:

Troigros O, B ejot Y, Rodriguez PM, Shoaib F, Ellis H, Wade D.  
Measuring complexity in neurological rehabilitation: the Oxford Case Complexity Assessment Measure (OCCAM).  
Clinical Rehabilitation. 2014;28(5):499-507. doi:10.1177/0269215513505300

The following pages are:

- a) a brief introduction to its use (one page)
- b) a more detailed form giving short guidance on each of the 27 items (eight pages)
- c) a summary sheet for one patient which could be used in a record (two pages)

There is also an Excel spreadsheet available (see link on the web page) on which you can keep a record of scores across a group of patients.

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OCCAM-Case  
**Clinical case-complexity factors**

Domain/item	Sc	Comment
<b>Pathology</b>		
Active disease		
Physiological stability		
<b>Impairment</b>		
Cognition		
Movement/posture		
Excretion		
Sensory functions		
Emotions		
Pain		
Swallow/eating		
Endurance/fatigue		
<b>Activities</b>		
Mobility		
Dexterity		
Personal activities		
Communication		
Social interaction		
Domestic/household		
Vocational		
<b>Social Roles</b>		
Role functions		
<b>Total - patient</b>		

**Comments:**

OCCAM-Case  
**Contextual** case-complexity factors

Domain/item	Sc	<i>Comment</i>
<b>Physical context</b>		
Accommodation		
Adaptation/equipment		
<b>Social context</b>		
Support from others		
Adverse effect others		
<b>Personal context</b>		
Personal beliefs		
Childhood		
<b>Time</b>		
Prognosis		
<b>Healthcare</b>		
History		
Organisations involved		
<b>Total - context</b>		

**Comments:**

## The Oxford Case Complexity Assessment Measure (OCCAM)

Domain	Score levels	Comment & guidance
<b>Pathology</b>		<b>Disease and physiology</b>
Number of <b>active</b> diseases. <i>Last two weeks</i>	0 Only one active disease 1 Two active diseases, 2 Three active diseases 3 Four or more active diseases	<i>Consider disorders affecting organs. Only major psychiatric diagnoses are considered diseases (e.g. psychotic disorders).</i> <b>An active disease</b> is a pathology, preferably proven, that requires continuing positive action (diagnosis and/or initiation or monitoring of specific treatment) <b>Secondary pathology</b> (i.e. 'complications') is considered as a separate disease.
Physiological stability. <i>Last two weeks</i>	0 Stable; no concerns about any system 1 One domain needs monitoring, or is unstable 2 Two domains are unstable 3 Three domains are unstable	<i>Consider physiological stability, judged by frequency of monitoring (more than daily = unstable).</i> <b>Domains:</b> ◆ Respiration and breathing ◆ Heart and circulation ◆ Neurological and level of consciousness ◆ Blood, temperature, renal function
<b>Impairment</b>		<b>Symptoms, signs, experience</b>
Cognition <i>Last two weeks</i>	0 No impairment of any cognitive process 1 Significant impairment in one domain 2 Significant impairment in two domains 3 Significant impairment in three domains	<i>The impairment is considered <b>significant</b> if it is <b>sufficient to cause disruption of activities</b>.</i> Consider <b>three domains</b> : ◆ Memory & attention; e.g. forgetful, easily distracted, confused about facts. ◆ Perception & analysis; e.g. misunderstands situations, misinterprets sensory input, confused about situation ◆ Initiation & planning; e.g. does not initiate and/or sequence activities successfully, confused about actions
Movement & posture <i>Last two weeks</i>	0 No motor impairment 1 One limb only affected 2 Two limbs, or trunk and one limb affected 3 Greater amount affected	<i>This considers motor control of the limbs and trunk (not face).</i> The <b>types of impairment</b> may include: ◆ Ataxia / in-coordination / unsteadiness ◆ Weakness / paralysis (any cause) ◆ Involuntary movement / tremor ◆ Restricted range of movement at joints (any cause)

Domain	Score levels	Comment & guidance
Excretion <i>Last two weeks</i>	0 Full control bowels and bladder 1 Reduced control of bowel <b>or</b> bladder 2 Reduced control of bowel <b>and</b> bladder; <b>or</b> complete loss of control over one 3 No control over bowel or bladder	<p><i>This considers control over excretion; <b>toileting</b> is different.</i></p> <p><b>Reduced control</b> means any alteration such as needing to wake at night, having to go quickly, occasional incontinence.</p> <p><b>Catheterisation</b> implies complete loss of control of bladder.</p>
Sensory functions <i>Last two weeks</i>	0 No alteration 1 Alteration in one domain, affecting activities 2 Alteration in two domains, affecting activities 3 Alteration in three domains, affecting activities	<p><i>This refers to sensory pathways. For each domain, <b>the alteration has to affect</b> the person's functioning to be scored. Score using any aids used (glasses, hearing aid)</i></p> <p><b>Domains:</b></p> <ul style="list-style-type: none"> <li>◆ Vision / seeing (inc. double vision); <b>affects</b> reading, finding way around, daily and leisure activities, safety.</li> <li>◆ Hearing; <b>affects</b> communication, safety</li> <li>◆ Somatic/visceral (i.e. bodily); <b>affects</b> mobility, dexterity, safety. <b>Pain</b> is considered separately.</li> </ul>
Emotion <i>Last two weeks</i>	0 Normal emotions including non-disruptive changes appropriate to situation 1 Minor distress, intermittently present, minor effect on life 2 Moderate distress, present most of the day and altering life 3 Severe distress, preventing many activities	<p><i>This refers to a person's emotional state (depression, anxiety, panic, fear), primarily judged by their <b>self-report</b>.</i></p> <p><i>To be <b>significant</b> the disturbance should cause <b>distress</b> to the patient, or should <b>alter life</b> such as by changing sleep, avoiding social contact, stopping activities.</i></p> <p><i>If <b>fluctuates</b> markedly, consider worst state lasting over one hour.</i></p>
Pain <i>Last two weeks</i>	0 No significant pain; no regular medication 1 Regular, daily medication; controlled most of the time, not altering life (activities) 2 Regular medication; not well controlled, alters some life (activities) 3 Regular medication; poor control, most activities altered	<p><i>This refers to the patient's self reported pain.</i></p> <p><b>Medication</b> refers to any drugs or other treatments (e.g. TENS) used to reduce, prevent or control pain.</p> <p><b>Alteration in life</b> means reducing, stopping or changing manner of any activity more than once a day</p> <p><b>Poor control</b> means that patient is always suffering (their judgment)</p>

Domain	Score levels	Comment & guidance
Swallow & eating <i>Last two weeks</i>	0 No problems chewing and swallowing 1 One domain positive 2 Two domains positive 3 Three domains positive; <b>or</b> uses a gastrostomy, or other enteral feeding	<i>This refers to the process of ingesting food (nutrition) and fluid (hydration).</i> <b>Domains:</b> <ul style="list-style-type: none"> <li>• <i>Speed/time taken. <b>Positive</b> if more than 30 minutes for main meal</i></li> <li>• <i>Alteration in diet or fluids. <b>Positive</b> if soft diet or thickened fluids.</i></li> <li>• <i>Safety. <b>Positive</b> if chokes more than once in a meal despite appropriate diet etc</i></li> </ul>
Endurance (fatigue, shortness of breath, pain on exercise etc) <i>Last two weeks</i>	0 No limitation of normal activities by symptoms over at least 35 minutes 1 Upper limit of a normal activity is 30 minutes 2 Upper limit of a normal activity is 15 minutes 3 Upper limit of a normal activity is 5 minutes or less	<i>This refers to a person's ability to continue at an activity without a symptom (such as fatigue, shortness of breath or pain) being the <b>prime reason</b> for stopping a normal activity sooner than desired and than would usually be achieved by most people.</i> <b>Normal activity</b> refers to any daily activity including reading or conversing; it does <b>not include</b> sport or keep fit activities. <i>In people with <b>fluctuating endurance</b>, consider the 'average' over the last two weeks.</i>
<b>Activities</b>		<b>Goal directed behaviours, disability</b>
Mobility <i>Last two weeks</i>	0 Normal independent mobility (RMI 14 or 15/15) 1 Reduced walking, or uses any equipment from time to time (RMI 8 – 13/15) 2 Needs equipment at all times, but can move self, with or without help (RMI 3 – 7/15) 3 Unable to move at all without help (RMI 0 – 2/15)	<i>This refers to independent mobility of the person about their environment.</i> <b>Equipment</b> means anything not used normally (sticks, orthoses, wheelchairs, hoists, grab rails etc). <b>Move self</b> means getting from place to place under patient's own control which may include the use of a <b>wheelchair</b> by the patient.  <i>RMI = Rivermead Mobility Index score</i>
Dexterity <i>Last two weeks</i>	0 Normal, bilateral arm function 1 One arm affected but still some function, other arm full function 2 Both arms affected, but with some function; <b>or</b> complete loss of one arm function 3 Both arms affected, severe loss of function.	<i>This refers to the use of arms and hands.</i> <b>Some function</b> means can use in an activity separately or bimanually. <b>Complete loss</b> means not used for any activity even for assistance. <b>Severe loss</b> means <b>unable to feed self</b> using arms. <b>Activities to consider</b> are feeding, dressing and doing buttons, carrying things, using phones, cooking, grooming.

Domain	Score levels	Comment & guidance
Personal Activities <i>Last two weeks</i>	<p>0 Independent (no hands-on or supervisory support) in all domains</p> <p>1 Support (hands-on, supervision) in one domain</p> <p>2 Support in two or three domains</p> <p>3 Support in four or more domains</p>	<p><i>This refers to the range of personal care activities covered in Activity of Daily Living indices.</i></p> <p><i>The following <b>five domains</b> should be considered:</i></p> <ul style="list-style-type: none"> <li>◆ <i>Dressing and grooming (doing hair, washing face, shaving)</i></li> <li>◆ <i>Bathing/showering (washing all over)</i></li> <li>◆ <i>Feeding self</i></li> <li>◆ <i>Getting about within accommodation</i></li> <li>◆ <i>Using toilet, or managing excretion (e.g. colostomy, urine drainage devices)</i></li> </ul>
Communication <i>Last two weeks</i>	<p>0 Able to express self fully and understand others normally</p> <p>1 Communication limited in some way, but competent for simple communication in both domains</p> <p>2 Competent for simple communication only in one domain</p> <p>3 No consistent communication</p>	<p><i>This refers to a person's ability to communicate their ideas and wishes, and to understand others.</i></p> <p><i>The following <b>two domains</b> or aspects are considered:</i></p> <ul style="list-style-type: none"> <li>◆ <i>Being able to follow a three stage command ("<b>before action 2, please undertake action 1</b>"). The command may be given orally or in others ways (e.g. written, gesture)</i></li> <li>◆ <i>Being able to give a complex command ("<b>Please do action 1 and then do unrelated action 2</b>"). This may be orally or in other ways (e.g. by writing or using aid to communication, or gesture).</i></li> </ul>
Social interaction <i>Last two weeks</i>	<p>0 Normal social interaction with others</p> <p>1 Interaction with others is <b>reduced</b>; less initiation by the person and/or limited response to other people.</p> <p>2 Interaction is occasionally <b>upsetting</b> to others (including aggression) but is tolerated, <b>or</b> places the person at risk.</p> <p>3 Interaction is frequently and/or severely <b>abnormal</b> – physically aggressive, not tolerated</p>	<p><i>This refers to the <b>style</b> of interaction between the person and other people (family, friends, staff, public etc).</i></p> <p><i><b>Tolerated</b> means that no-one is persistently upset or afraid, although they may avoid the person.</i></p> <p><i><b>Interaction</b> refers to any aspect of the social behaviour – speech (e.g. swearing, threats), actions, or other features.</i></p> <p><i><b>Level 2</b> includes threats, being rude or unpleasant, <b>or</b> being over-familiar and disinhibited sufficient to cause risk to the person of being taken advantage of (i.e. being a <b>vulnerable adult</b>)</i></p> <p><i><b>Occasional</b> means no more than twice daily</i></p>

Domain	Score levels	Comment & guidance
Domestic & household activities <i>Last two weeks</i>	0 Can undertake all household activities needed 1 Needs help in one domain 2 Needs help in two domains 3 Needs help in three or more domains	<p><i>This refers to activities undertaken in the house. If the person is <b>in hospital or a residential place</b>, score on what they have achieved in that setting even if not routinely done</i></p> <p><i>There are <b>three domains</b>:</i></p> <ul style="list-style-type: none"> <li>◆ <i>Food preparation, cooking and washing up</i></li> <li>◆ <i>Keeping house adequately clean.</i></li> <li>◆ <i>Getting shopping (including any travel needed) but may use Internet</i></li> </ul>
Vocational activities <i>Last two weeks</i>	Undertakes independently (without being prompted) activities: 0 in at least three domains. 1 in two domains. 2 in one domain 3 Not at all	<p><i>This refers to other productive or meaningful activities. If the person is <b>in hospital or a residential setting</b>, score what they have achieved in that setting even if not routinely done.</i></p> <p><i>There are <b>four domains</b>:</i></p> <ul style="list-style-type: none"> <li>◆ <i>Productive <b>work</b>, paid or unpaid, including caring for dependents (adult or child)</i></li> <li>◆ <i><b>Housecare</b> – gardening, D-I-Y around house, managing affairs</i></li> <li>◆ <i><b>Leisure</b> activities and hobbies</i></li> <li>◆ <i><b>Social</b> activities outside house - provided they are chosen and wanted by the person (i.e. not simply being taken somewhere as company)</i></li> </ul>
<b>Social roles</b>		<b>Participation in society</b>
Role functions <i>Last month</i>	Has one or more roles in relation to: 0 Three domains 1 Two domains 2 One domain 3 None (may still have roles in own accommodation, e.g. with family)	<p><i>This refers to the person being an active participant in a social network or group with a specific status or role within that group.</i></p> <p><i><b>Note:</b> roles entirely with people that share the accommodation and roles that relate only to paid carers are not included. For people <b>in hospital or residential setting</b>, it refers to the social contacts the person has with visitors from these domains.</i></p> <p><i>There are <b>three domains</b>:</i></p> <ul style="list-style-type: none"> <li>◆ <i><b>Family</b> from outside accommodation</i></li> <li>◆ <i><b>Friends</b> from outside accommodation</i></li> <li>◆ <i><b>People</b> from organisations (work, clubs etc)</i></li> </ul>
<b>Physical context</b>		<b>Physical environment</b>

Domain	Score levels	Comment & guidance
<p>Accommodation <i>Occupied or available now</i></p>	<p>Number of domains failed:</p> <p>0 No problems in any domain</p> <p>1 One domain fails</p> <p>2 Two domains fail</p> <p>3 Three domains fail: <b>no accommodation available, or available accommodation cannot be adapted to needs</b></p>	<p><i>This refers to the accommodation <b>available to the person now</b>, usually that lived in prior to admission (or lived in now if not in hospital).</i></p> <p><i>It is graded (0-3) according to its suitability or availability for the patient <b>as she/he is at the time of assessment</b> and according to the <b>safety of person in accommodation</b>.</i></p> <p><i>There are <b>three domains</b>:</i></p> <ul style="list-style-type: none"> <li>◆ <i>Having accommodation available that could if necessary be adapted</i></li> <li>◆ <i>Getting into and out of house safely</i></li> <li>◆ <i>Getting to toilet, kitchen, living area, bathroom and bedroom</i></li> </ul>
<p>Adaptations / equipment needed. <i>Last two weeks</i></p>	<p>0 Does not need / use any specific change in context</p> <p>1 Needs change in one domain</p> <p>2 Needs change in two domains</p> <p>3 Needs change in three domains</p>	<p><i>This refers to any equipment or change that the person requires that is specific to them <b>and</b> is a response to their condition. The domains are based on (a) size and (b) being fixed in space.</i></p> <p><i>The score concerns equipment/adaptations <b>needed</b>, and anything already provided or changed is <b>not scored</b>.</i></p> <p><i>There are <b>three domains</b>:</i></p> <ul style="list-style-type: none"> <li>◆ <i>Small, movable, peri-personal: orthoses, prostheses, adapted small items, clothes, portable mobility aids, communication aids etc</i></li> <li>◆ <i>Large, but personal: wheelchairs, special seating etc</i></li> <li>◆ <i>Fixed, environmental: rails, ramps, lifts, hoists etc. This usually applies to the home, and if someone is <b>in hospital this is scored</b> in relation to their anticipated accommodation.</i></li> </ul>
<p><b>Social context</b></p>		<p><b>Social support and network</b></p>
<p>Support from family and friends <i>Last two weeks</i></p>	<p>Has <b>active support</b> available from:</p> <p>0 Three or four domains</p> <p>1 Two domains</p> <p>2 One domain</p> <p>3 No domain</p>	<p><i>Active support refers to an expressed commitment to visit and provide emotional or practical support even if the person is not initiating it.</i></p> <p><i>For someone <b>in hospital or a residential setting</b>, score according to support received or credibly offered on discharge.</i></p> <p><i>Domains:</i></p> <ul style="list-style-type: none"> <li>◆ <i>Family/friends living in same accommodation</i></li> <li>◆ <i>Family living outside accommodation</i></li> <li>◆ <i>Friends from outside accommodation</i></li> <li>◆ <i>People from organisations (work, clubs etc)</i></li> </ul>

Domain	Score levels	Comment & guidance
Needs of family and friends <i>Last two weeks</i>	<b>Added input</b> needed in: 0 No domains 1 One domain 2 Two domains 3 All three domains	<p><i>This refers to the attitudes, expectations and behaviours of family and others closely related to the patient, concerning their influence upon the patient's health-related behaviour.</i></p> <p>Consider <b>three domains</b> that others may influence:</p> <ul style="list-style-type: none"> <li>◆ Encouragement of the patient to go against advice (passive)</li> <li>◆ Involvement of the patient in activities against patient's best interests (active)</li> <li>◆ Requiring/demanding input for themselves from services, including having previously been dependent upon the patient</li> </ul>
<b>Personal context</b>		<b>Personal attributes</b>
Personal beliefs <i>Last two weeks</i>	0 Understands and accepts situation and expected future 1 Understands situation and expected future; complies with plans but expresses frequent reservations 2 Actions show failure of understanding of or agreement with situation and plans; still complies occasionally 3 Seems to have minimal or no agreement or understanding; no compliance	<p><i>This section concerns the attitude and expectation of the patient in relation to their illness. It encompasses the phenomenon of <b>insight</b> (= failure of understanding).</i></p> <p><i>The scoring depends upon a <b>judgment</b> based on:</i></p> <ul style="list-style-type: none"> <li>◆ Actions rather than words; if a person acts one way and talks another, base grading on action</li> <li>◆ Frequency and consistency of actions and words; occasional comments can be discounted</li> </ul>
Childhood Past history	0 Stable childhood with two parents until 16 years 1 Experienced trouble in one domain 2 Experienced trouble in two domains 3 Experienced trouble in three domains	<p><i>This concerns the patient's background upbringing; the answer is based on best available evidence which may often be incomplete. (It is not always appropriate to raise these issues directly, though it may help.)</i></p> <p><i>There are <b>three domains</b>:</i></p> <ul style="list-style-type: none"> <li>◆ Disrupted parenting: death, divorce, domestic violence etc</li> <li>◆ Abuse reported: psychological, emotional, sexual</li> <li>◆ Disrupted schooling: moving schools, truanting, excluded from school</li> </ul>
<b>Time</b>		<b>History and prognosis</b>

Domain	Score levels	Comment & guidance
Prognosis for condition <i>At time of scoring</i>	0 Condition stable, life expectancy over one year 1 Condition likely to improve, life expectancy over one year 2 Condition likely to deteriorate, life expectancy over 12 months 3 Condition <ul style="list-style-type: none"> <li>· fluctuates markedly, <b>or</b></li> <li>· unpredictable, <b>or</b></li> <li>· life expectancy under one year</li> </ul>	<p><i>This refers to <b>overall prognosis</b> taking into account all diseases and any other factors such as seizures, skin pressure ulcers, and infections.</i></p> <p><b>Condition</b> refers to the person's overall state, whatever the causes are. It includes but is not limited to the main diagnosis.</p> <p><i>The factors to consider are:</i></p> <ul style="list-style-type: none"> <li>• <i>change: improving, stable, or worsening</i></li> <li>• <i>life expectancy: more or less than 12 months</i></li> <li>• <i>predictability: marked fluctuation over four weeks, or very unpredictable over four months</i></li> </ul>
<b>Healthcare</b>		<b>Organisation/history</b>
History of healthcare use <i>Up to this point</i>	Use of hospitals 0 Only used for this condition and only used over last one year 1 One domain positive 2 Two domains positive 3 Three domains positive	<p><i>This refers to use of hospital (secondary or tertiary) care health resources. The use of general practitioner services or community services is not considered.</i></p> <p><b>Three domains of hospital use</b> considered:</p> <ul style="list-style-type: none"> <li>◆ <i>Used for other conditions (not only main condition)</i></li> <li>◆ <i>Involved for more than one year</i></li> <li>◆ <i>More than one inpatient spell</i></li> </ul>
Organisations involved <i>At the time of scoring</i>	0 Only own service/organisation involved 1 One other service group actively involved 2 Two other service groups actively involved 3 Three or more service groups actively involved	<p><i>This refers to other organisations actively involved (over and above current organisation).</i></p> <p><b>Active involvement</b> means accepting a continuing responsibility (i.e. the case is 'active'), not just being available.</p> <p><b>Organisations</b> to consider include:</p> <ul style="list-style-type: none"> <li>◆ <i>Other local secondary care (hospital) services outside own service</i></li> <li>◆ <i>Tertiary health care (regional or national services)</i></li> <li>◆ <i>Community care services (excluding general practitioner)</i></li> <li>◆ <i>Social services</i></li> <li>◆ <i>Housing services</i></li> <li>◆ <i>Employment or education services</i></li> </ul>