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Post-stroke emotional adjustment: A modified social cognitive transition model

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Patients report a wide variety of emotional responses following stroke. Some individuals find the process of adjusting to their changed circumstances extremely difficult, while others cope well. Predicting and understanding patients’ adjustment to stroke therefore poses challenges within rehabilitation settings. While research has revealed some of the variables associated with increased emotional distress (i.e., post-stroke depression) after stroke, a general model of post-stroke emotional adjustment has not yet been put forward. This article proposes that the Social Cognitive Transition model provides a sound theoretical basis upon which to build an understanding of post-stroke adjustment. The essential elements of a Social Cognitive Transition Model for Stroke are summarised, and clinical examples are used to discuss this model. The implications for psychological assessment, formulation and treatment are also discussed.

Keywords: Stroke; Adjustment; Rehabilitation.
INTRODUCTION

Stroke causes a wider range of physical and cognitive disabilities than any other chronic condition (Adamson, Beswick, & Ebrahim, 2004). These disabilities often have a significant impact on patients’ mental health. As such, the variety of individual emotional responses to stroke continues to pose challenges within rehabilitation settings (Dowswell et al., 2000). Models that can make sense of the common emotional trajectories experienced by stroke patients may assist clinicians in normalising these responses, and in identifying and assisting those who are most likely to struggle during the adjustment process.

The word “adjustment” is often used to characterise a successful response to chronic illness and is sometimes conceptualised as a discreet end-point in the process of a patient’s recovery (Brennan, 2001). Although no single definition of adjustment has been accepted, Brennan (2001) has defined it as “the processes of adaptation that occur over time as the individual manages, learns from and accommodates the multitude of changes which have been precipitated by changed circumstances in their lives” (p. 2). This definition suggests that rather than understanding adjustment as something that either has or has not happened for a patient, it is more fruitful to frame it as a fluid process within which difficulties may be encountered.

Various studies have investigated the process of adjustment to chronic illness in general (Pollock, 1986) and to specific conditions, such as chronic pain (Morley, Davies, & Barton, 2005; Sutherland & Morley, 2007), blindness (Dodds, Ferguson, Ng, Flannigan, Hawes, & Yates, 1994), and various cancer subtypes (Cicero, Lo Coco, Gullo, & Lo Verso, 2009; Epping-Jordan et al., 1999). A complete review of the adjustment literature is beyond the scope of the present paper (see Brennan, 2001, for an excellent summary of relevant social cognitive and coping theories). For the purposes of this article, a literature review was conducted using Google Scholar, PubMed and manual searches of article reference sections focusing on the terms “adjustment” and “stroke”. As such, we aim to discuss models that have been applied specifically to stroke, later focusing particularly on the Social Cognitive Transition (SCT) model proposed by Brennan (2001). Thereafter, a modified Social Cognitive Transition Model for Stroke (SCoTS) is proposed. We believe the SCoTS can facilitate improved understanding, formulation and treatment of adjustment-related distress after stroke.

MODELS OF ADJUSTMENT IN STROKE

Research investigating emotional functioning in recovering stroke patients has primarily focused on post-stroke depression (PSD). PSD affects one
third of all stroke survivors (Hackett, Anderson, House, & Xia, 2009; Hackett, Yapa, Parag, & Anderson, 2005), it elevates mortality risk (House, Knapp, Bamford, & Vail, 2001) and impedes functional recovery (Pohjasvaara, Vataja, Laeppavouri, Kaste, & Erkinjuntti, 2001). A substantial body of literature now exists highlighting the diverse range of potential risk factors for PSD (e.g., Gayman, Turner, & Cui, 2008; Gum, Snyder, & Duncan, 2006; Kneebone & Dunmore, 2000; Narushima, Kosier, & Robinson, 2003; Sharpe et al., 1994; Vickery, Sepehri, & Evans, 2008).

In comparison, there has been a relative lack of research modelling the post-stroke adjustment process; a critical clinical topic of relevance to patients who adjust “well” in addition to those who do not. Bereavement models are perhaps the one exception to this. These have been referred to frequently, both in the stroke rehabilitation literature (Alaszewski, Alaszewski, & Potter, 2004; Dreslin, 2003; Wade, Langton Hewer, Skilbeck, & David, 1985) and within the clinical practice context (e.g., Chest, Heart, Stroke Scotland, 2010). Bereavement models are based on the premise that stroke very often leads to physical, emotional and social losses similar to those experienced around death (Alaszewski et al., 2004). For example, Wade et al. (1985) describe a four-stage model of bereavement following stroke, in which stroke patients are hypothesised to move through four key bereavement stages: Crisis, Treatment, Realisation, and Adjustment and Acceptance. It is proposed that patients may experience emotional difficulties impacting upon their long-term adjustment at any one of these stages.

Bereavement models therefore provide a simple, intuitive framework within which an individual’s adjustment to stroke can be understood. Arguably, however, they do not fully capture the complexity of stroke survivors’ experiences. For example, based on qualitative analysis, Alaszewski et al. (2004) have argued that stroke survivors adjust in a dynamic, goal-oriented way and do not always benefit from bereavement formulations. Furthermore, stage models cannot help us to understand why some patients progress to “adjustment and acceptance”, while others do not.

In attempting to explain this complex process further, several preliminary qualitative studies have revealed a variety of themes relevant to patients’ experiences of stroke adjustment. Common themes include a discontinuity between pre- and post-stroke identity and sense of self (Carlsson, Moller, & Blomstrand, 2009; Dowswell et al., 2000; Murray & Harrison, 2004), the invisibility of emotional difficulties (Carlsson et al., 2009; Murray & Harrison, 2004) and changes in relationships, sexuality and social interactions (Murray & Harrison, 2004). In keeping with Brennan’s (2001) definition, this suggests that adjustment may best be conceptualised as a continuous and dynamic process rather than as occurring in stages.

Despite the above research, no general model of post-stroke emotional adjustment has been proposed to date. As previously described, a number
of authors have developed models of adjustment for other chronically ill populations. The SCT model proposed by Brennan (2001) is of particular relevance, and it is to this model that we now turn.

SOCIAL COGNITIVE TRANSITION MODEL OF ADJUSTMENT TO CANCER

The SCT model is a psychosocial framework that attempts to explain both positive and negative adjustment experiences among cancer patients (Brennan, 2001). The model highlights the importance of individuals’ social context in the process of adjustment, and incorporates theories of coping and traumatic stress as applied to illness. Drawing on Power and Dalgleish’s (1997) cognitive model of emotion, Brennan emphasises the importance of assumptions in adapting to the world around us. According to this model, we each have a cognitive map or representation of the world, reflecting our social and cultural context and the accumulation of our life experience. This highly complex “assumptive world” is biologically adaptive in that it allows us to anticipate and plan for the future.

According to the SCT model, when we make a prediction based on our assumptions, they will either be confirmed or disconfirmed by subsequent experience. If the expectation is confirmed, the assumption is strengthened. If the expectation is disconfirmed, this may lead to a period of disorientation and stress while the assumption is adjusted to take account of the new experience. Short-term denial and avoidance can allow the intensity of the experience to be weakened, therefore reducing distress and facilitating adjustment.

This model helps explain individual differences in responding to cancer as it proposes that people (i) hold varied assumptions mediated by social and cultural factors, (ii) experience events in different ways, and (iii) may have characteristic responses to events that do not confirm their world-view. The time needed to rebuild assumptions in the face of new evidence can be seen as the adjustment period. In this way, the SCT model allows a broad perspective to be taken on the psychological effects of illness that, with some modification, is equally applicable to stroke.

A SOCIAL COGNITIVE TRANSITION MODEL FOR STROKE (SCoTS)

As with the original SCT model (Brennan, 2001), SCoTS provides a general framework within which individual differences in post-stroke adjustment can be understood. The stroke-specific additions to this model are derived from the evidence base and from clinical experience.
The SCoTS is not a stage model. Instead it suggests a dynamic process that may lead to a variety of outcomes for patients post-stroke. As shown in Figure 1, SCoTS also suggests that adjustment involves a cyclical process in which patients’ evaluate their post-stroke coping responses and modify them over time until eventual adjustment of assumptions is achieved. This is consistent with Brennan’s suggestion that patients gradually “absorb” traumatic information using coping responses such as denial and avoidance.

Importantly, although we may observe that some patients emerge from this process with better functioning than others, there is no “right” or “wrong” way to adjust and there is no time-scale proposed for how long adjustment may take.

While the SCoTS closely resembles Brennan’s (2001) original model, certain variations have been introduced to address the specific post-stroke adjustment reactions most commonly seen in clinical practice. The following summary describes the central components of the SCoTS.

Assumptive world
In the case of a typical stroke patient, their assumptive world will almost always be challenged or disconfirmed by the experience of stroke and its immediate repercussions. As Brennan states, “‘adjusting’ core assumptions involves huge amounts of cognitive processing and emotional distress” (Brennan, 2001, p. 9), even amongst those with flexible mental models. In keeping with our clinical experience, this often leads to acute emotional difficulties, such as feelings of confusion, loss, sadness and anger (Dowswell
et al., 2000). Given enough time and the cognitive capacity to process their experiences, some patients will simply modify their assumptive world to accommodate their stroke. These individuals are unlikely to suffer ongoing mental health problems and may be observed to have adjusted “well”.

As research has shown however, many patients struggle with the emotional consequences of their stroke and do not readily accept or adjust to what has happened (Dowswell et al., 2000). In such cases, certain central assumptions and beliefs may be held by the individual that are highly valued and inflexible. When a stroke occurs and these assumptions are disconfirmed, their very inflexibility will influence that individuals’ ability to accommodate and adjust to their stroke experiences.

Moreover, in keeping with Beck’s (1967) cognitive model, the experience of stroke and disability may also confirm previously held negative beliefs for some individuals (e.g., “I am worthless”, “Others see me as weak”) and may lead to emotional distress via this pathway.

Severity of stroke and subsequent disability

Stroke severity and the nature of subsequent disabilities have an important impact on post-stroke emotional difficulties such as PSD (Gayman et al., 2008; Gum et al., 2006; Narushima et al., 2003; Sharpe et al., 1994). Significant changes in ability are more likely to threaten previously valued roles and assumptions. As such, the disparity between pre- and post-stroke levels of disability is particularly important to adjustment within the SCoTS.

Cognitive deficits

The SCoTS proposes that several cognitive abilities are fundamental to stroke patients’ ability to adjust. A cognitive deficit affecting insight or self-awareness, as seen among anosognosic patients (Ownsworth, McFarland, & Young, 2000), may reduce an individual’s capacity to understand their stroke experience and engage in behaviours that would facilitate adjustment. The nature and severity of such deficits can have a significant bearing upon an individual’s post-stroke adjustment. Using the model of Crosson et al. (1989), patients may be seen to experience increased adjustment-related distress in cases where their “intellectual awareness” remains intact (i.e., “I know I have certain disabilities and limitations) but “anticipatory awareness” is impaired (i.e., “Why can’t I go home and do the things I want to do?”). In contrast, in some extreme cases of anosognosia a complete lack of awareness of disconfirmation experiences may result in less adjustment-related problems. These patients may be unable to begin the process of adjustment.

Similarly, deficits of attention, language, memory or executive functioning, which are common after stroke (Tatemichi et al., 1994), may influence patients’ ability to process and remember the outcome of their post-stroke
coping responses. This might prevent the formation of new beliefs and assumptions during rehabilitation, resulting in repeated disconfirmation of the pre-stroke assumptive world and potentially to further emotional difficulties.

Emotional difficulties themselves may also cause or exacerbate cognitive deficits and complicate adjustment. Depression has been independently associated with increased cognitive deficits, such as memory, attention and problem solving difficulties (Austin, Mitchell, & Goodwin, 2001). This research illustrates that the nature, severity and long-term impact of post-stroke cognitive deficits is influenced by an array of neurological and psychological variables.

Intra- and inter-personal responses

Brennan’s (2001) original model uses the general term “Stress” to describe the psychosocial impact of disconfirmation experiences. Brennan also describes the importance of denial in regulating the emotional exposure to, and processing of, traumatic information. In order to further define the post-stroke adjustment process, the SCoTS describes individuals’ disconfirmation experience in terms of intra-personal and inter-personal responses. These responses are considered to be the individuals’ conscious and pre-conscious attempts to respond to their illness experience. This may include both adaptive and maladaptive responses, some of which may be designed to avoid disconfirmation and facilitate the retention of previously held assumptions.

Intra-personal responses are used in the SCoTS to represent the varied cognitive and emotional reactions patients may have in response to the disconfirmation experience. Cognitive responses may include changes to perceptions about the self, chronic illness and treatment (see next section for clinical examples). Emotional responses, such as denial, acceptance, anxious rumination (Eysenck, 1992), anger and grief will also impact upon adjustment. Positive emotional coping is also important to consider. Some patients describe feelings of relief and increased confidence after stroke (e.g., “It could have been much worse”; “I am going to make the most of the time I have left”) (Carlsson et al., 2009). There is also evidence of substantial positive psychological growth after severe, acquired brain injury (Collicutt McGrath & Linley, 2006).

Inter-personal responses in the SCoTS represent the impact of the stroke experience on fundamental behavioural and social factors. Attachment and sexual relationships (Murray & Harrison, 2004), role changes (Dowswell et al., 2000), social interactions (Murray & Harrison, 2004), and healthcare experiences have significant meaning for almost all patients. The many ways in which these inter-personal dimensions may change following
stroke often have a profound impact on individuals’ subsequent behavioural responses.

Importantly, the SCoTS does not suggest that these diverse intra- and interpersonal responses occur in isolation. Rather, it proposes that post-stroke cognitive, emotional, behavioural and social coping responses are dynamically and reciprocally linked. Moreover, these responses occur within a particular social context, which will influence coping strategies and subsequent adjustment. In combination with a patient’s cognitive deficits, this aspect of the model can explain a variety of factors that may serve to maintain or exacerbate adjustment-related distress.

Overview

In summary, the SCoTS proposes that the content and rigidity of an individual’s “assumptive world” is fundamental in dictating the trajectory of post-stroke emotional adjustment. Following the confirmation, or disconfirmation, of assumptions, the quality, severity and duration of stress experienced is influenced by social context and other individual differences. The SCoTS in particular highlights the importance of patients’ cognitive deficits, intra- and inter-personal responses and the dynamic ways in which these variables interact. Depending upon these factors, the “assumptive world” may or may not be adjusted to accommodate new post-stroke experiences. The SCoTS compliments another recent biopsychosocial model of brain injury neurorehabilitation (Wilson & Gracey, 2009) and, consistent with Brennan’s (2001) definition and with qualitative findings (Dowswell et al., 2000), views adjustment as a process in which the individual is actively engaged.

CHARACTERISING COMMON POST-STROKE ASSUMPTIONS AND CLINICAL MANIFESTATIONS

For the SCoTS to be clinically useful, it must be able to explain the range of adjustment experiences observed in real-world stroke rehabilitation settings. The following section describes examples of common assumptions that are disrupted among stroke patients and uses the SCoTS to discuss the implications for patient adjustment (See Figure 2 for a clinical example of the SCoTS).

Beliefs about past self and future self

As previously described, stroke patients and their families often observe a clear schism between their pre- and post-stroke selves (Dowswell et al., 2000; Murray & Harrison, 2004; Stone et al., 2004). In such instances there are often disconfirmed assumptions, which may revolve around independence
and control (e.g., “People who need help are a burden”), body image (e.g., “People look ugly after strokes”), self-esteem (e.g., “People who cannot walk are a failure”), life goals (e.g., “To be worthwhile, I must always be progressing/achieving”) and previously valued roles (e.g., “Keeping active is very important”). Patients who value their work and productivity over other aspects of their lives (e.g., “Without my work I am useless”) may also be prone to negative coping responses.

Maladaptive intra-personal responses resulting from belief disconfirmation may include catastrophic thoughts about recovery, negative self-perceptions, low mood and anxiety. Negative inter-personal coping responses may include attempts to hold on to former roles, social withdrawal and reduced activity levels. As previously described, the rigidity of the assumption is an important
factor in this process. Cognitive deficits affecting executive functioning may also contribute to mental inflexibility.

Beliefs about stroke

Patients’ interpretations of their stroke experience are dependant upon their previous perceptions and beliefs about illness (e.g., Ajzen, 1985; Leventhal, Meyer, & Nerenz, 1980) and disability (Mukherjee, Levin, & Heller, 2006). Assumptions about the meaning of having a stroke (e.g., “Strokes happen to people when they are old”, “People are disabled after having a stroke”) may be confirmed or disconfirmed by post-stroke experiences. For example, patients who have always eaten well, exercised and felt themselves to be healthy are likely to have their assumptions about illness challenged and may find it hard to understand why they had a stroke, potentially slowing the adjustment process.

Patients also very often express frustration and depression related to the lengthy timescale of post-stroke recovery. In these cases, previous assumptions about recovery time (e.g., “Illnesses should only last a few days”) or personal efficacy (e.g., “I should be able to recover from illness quickly”) may have been disconfirmed, leading to a range of intra- and inter-personal responses, including hopelessness and anger.

Fear of recurrence and health anxiety is another common theme (Townend, Tinson, Kwan, & Sharpe, 2006). Such fears may be underpinned by assumptions about stroke recurrence (e.g., “Having one stroke means you will always have many”), severe disability (e.g., “I’ve had a stroke now – the next one will be massive”) and death (e.g., “The second stroke always kills you”). The maintaining factors outlined by cognitive behavioural models of health anxiety (e.g., reassurance seeking, checking behaviours and safety/prevention behaviours (cf. Warwick & Salkovskis, 1990) are relevant to understanding coping responses in such cases.

Attachment relationships and social functioning

As described by Bowlby (1979), social attachment provides a sense of safety in stressful situations. Brennan (2001) summarises the impact that life-threatening illness can have on attachment relationships, creating profoundly distressing changes in assumptions and interpersonal roles. Assumptions about changed sexual relationships and familial roles appear particularly important to many stroke patients’ adjustment (Murray & Harrison, 2004) (e.g., “Sex is essential to a successful relationship”; “I keep the family together”). Beliefs about social roles and gender identity (e.g., “Men should be able to earn their way”) may also contribute to increased patient anxiety about judgements others may make about their disability. In these cases, patients often adopt
behavioural avoidance strategies, further isolating themselves and affecting their emotional well-being.

In considering the social context within which adjustment occurs, the assumptions of close family members and others are also important. Those close to the patient may unknowingly respond to and reflect negative coping responses, such as denial and avoidance. In addition, family members may be struggling to cope with the stressful disconfirmation of assumptions about their own relationships and roles. Such familial responses can provide inadvertent reinforcement for patients’ coping responses and further complicate adjustment.

CLINICAL IMPLICATIONS OF SCoTS

We have shown how the SCoTS can provide a useful explanatory framework with which to understand and formulate individual differences in post-stroke adjustment. However, what are the key assessment and treatment implications that follow from the model, and how should clinicians proceed in order to aid psychological adjustment? The following sections summarise important considerations in assessing, formulating and treating adjustment-related distress. It should be highlighted that all three of these stages involve active engagement and intervention of some kind and, as such, may each facilitate patient adjustment in their own right. Although all health professionals can and should facilitate the adjustment process, some of the approaches discussed here require advanced clinical skills and should only be administered by appropriately trained, experienced staff.

Assessment

The emotional impact of stroke is complex and multifactorial. There are important diagnostic considerations when assessing for adjustment-related distress. For some individuals, mental health symptoms may reflect a more “formal” mood disorder and careful assessment is required to rule these out. Pervasive low mood and hopelessness may reflect PSD (Broomfield et al., 2011), while tearfulness and social avoidance may suggest post-stroke emotionalism (PSE) (see House, Hackett, Anderson, & Horrocks, 2008). Post-stroke anxiety disorders are a further possibility (Barker-Collo, 2007; House et al., 1991). Equally, adjustment-related distress can contribute to the onset and maintenance of these disorders. Clinical judgement is therefore required to discriminate amongst these possibilities. This is of importance because both PSD and PSE may show response to pharmacotherapy (Hackett et al., 2009; Hackett, Yang, Anderson, Horrocks, & House, 2010).

There are at present no validated psychometric scales to aid in the identification of adjustment-related distress, although in Glasgow we are currently
developing such a screening tool. Accordingly, skilled assessment of individual presenting problems is essential. Aspects of the SCoTS may be used to inform such an assessment. The model directs us to consider factors such as pre- versus post-stroke functioning, stroke severity, content and rigidity of assumptions, choice of coping strategies and access to social supports. In addition, the SCoTS highlights the importance of assessing patients’ cognitive deficits in considering post-stroke adjustment. In this regard, assessments of awareness, such as the Self-Regulatory Skills Interview (Ownsworth et al., 2000), may be useful in addition to more commonly used cognitive screening measures.

The process of assessment described above requires the clinician to carefully engage with patients, without assumption, and support them to talk through their emotions. The clinical importance of this therapeutic encounter should never be underestimated. According to the SCoTS, even when there are minimal linguistic, physical and cognitive sequelae after stroke, patients need to process changes to their existing core assumptions in order to adjust. Providing patients with a safe space to talk will facilitate this by exposing them to what has happened, thereby aiding accommodation and assimilation (cf. Brennan, 2001).

**Formulation**

The end point of the psychological assessment process should be a simple (not simplistic) shared formulation. This should assist the patient and therapist to account for and understand ongoing psychological symptoms, to identify reversible maintaining factors, and to set goals. The SCoTS provides an explanatory framework to facilitate this process. For example, patients who are having difficulty adjusting can be advised that such distress is common after a stroke due to the inherent difficulties in modifying one’s assumptions. This can help patients to understand distress as part of a “normal” adjustment process.

Visual diagrams are also useful during formulation. Figure 3 illustrates a simplified SCoTS diagram which clinicians can employ to reinforce the idea that adjustment-related distress is both (i) normal, and (ii) necessary for progress.

**Intervention**

Not all adjusting stroke survivors will show signs of improvement following assessment, formulation and psycho-education. Such patients may benefit from more involved intervention strategies to facilitate adjustment. Brennan (2001) organises possible psychological interventions to target adjustment problems across three areas: (i) Life Trajectory, (ii) Attachment
Relationships, and (iii) Self-Beliefs. To this we would add (iv) Stroke-Specific Beliefs.

**Life Trajectory.** Following stroke, some patients require help to re-examine life priorities and goals, and maintain motivational structure. Behavioural Activation Therapy (BAT), which encourages patients to schedule activities which confer pleasure (reward) and mastery (achievement), has a strong evidence base (Lewinsohn & Gotlib, 1995). By definition, BAT promotes active coping strategies which we know help to foster better adjustment. Critically, such interventions can also assist patients to resume and transform their former (pre-stroke) social roles, allowing for cognitive and social change as maladaptive assumptions are modified (cf. Brennan, 2001). This example neatly highlights the dynamic and reciprocal links which operate between post-stroke cognitive, emotional, behavioural and social coping responses, a key cornerstone of the SCoTS.

**Attachment Relationships.** The “buffering” effect of securely attached relationships during times of stress is well understood (Cohen & Willis, 1985). This is most likely why providing patients with a safe space to talk about their feelings after stroke is usually beneficial.

As previously mentioned, stroke can also challenge patient assumptions regarding familial roles. Unhelpful behavioural and/or avoidance strategies linked to these assumptions should be carefully identified and reversed by encouraging adoption of more adaptive strategies (e.g., open communication). Ideally, the assumptions of close family members should also be

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**Figure 3.** Simplified SCoTS diagram for use in psychoeducation.
examined and addressed at this point. There is a clinical need for more family therapy work in stroke (Bowen, Yeates, & Palmer, 2010; Palmer & Glass, 2003).

For some patients experiencing adjustment-related distress, reduced links to wider social support networks may be a salient problem. Socially avoidant stroke patients should, after careful assessment, be encouraged to test out the effects of raised social participation. Stroke clubs, alongside non-stroke related social settings (e.g., bowling club, social club, church), can be ideal to test this approach.

Self-Beliefs. A range of cognitive behaviour therapy (CBT) methods can be employed to help patients to accommodate their stroke experience, manage difficult emotions and minimise unhelpful coping responses related to negative self-beliefs, e.g., CBT for low self-esteem (e.g., Fennell, 1999), behavioural experiments and anxiety/mood management (see Broomfield et al., 2011, for a detailed review).

Interpersonal therapy (IPT) for role transition (Stuart & Robertson, 2003) can be employed to assist stroke patients to develop more adaptive post-stroke assumptions and social roles. Using IPT methods, stroke patients can be helped to accept the loss of their pre-stroke self, acknowledge and understand the transitional distress they are experiencing, and appraise the new role(s) they now face.

Stroke-Specific Beliefs. Clinicians need to be aware of their patients’ stroke-related beliefs and any misconceptions they may have. Clear, consistent information regarding stroke prognosis and recovery must be conveyed to the patient and family from the outset. If required, this can be carefully reinforced using psycho-education to help patients accommodate a more accurate set of recovery beliefs. It may also be necessary to address patient assumptions regarding timescale of post-stroke recovery, self-efficacy to achieve goals, and the potential outcomes of rehabilitation (Scobbie, Dixon, & Wyke, 2011). Some patients can hold on to unrealistic views regarding their likely future and may set unattainable goals as a result. This poses a particular challenge for rehabilitation staff. In such cases, therapeutic intervention may be required to help patients reach a more realistic view.

Whichever the intervention(s) chosen, the patient must be supported to learn active coping strategies, since research shows it is these approaches that best ameliorate low mood and anxiety, and restore a greater sense of personal agency, efficacy and esteem (Brennan, 2001). The specific choice of methods employed will largely be determined by the formulation.
SUMMARY AND CONCLUSIONS

The SCoTS is a cyclical, dynamic model of post-stroke adjustment. It offers a framework within which to understand the complex, seemingly unpredictable responses that occur as individuals come to terms with the changes that their stroke has brought about. Contrary to bereavement-based models, SCoTS captures the ongoing and evolving process of assumption, disconfirmation, intra- and inter-personal responding seen in stroke survivors. It is hoped that this model will provide health professionals, patients and families with a useful starting point to improve their understanding of the normal, post-stroke adjustment process. We have discussed how the SCoTS may inform assessment and treatment approaches, suggesting that psychological interventions in this area have much to offer. In this context, the particular strength of the SCoTS lies in its ability to account for the range of individual experiences after stroke, and to support collaboration between the therapist and patient as they navigate their way through the adjustment process.

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