CANADIAN STROKE BEST PRACTICE RECOMMENDATIONS

Rehabilitation, Recovery and Community Participation Following Stroke

Part Three: *Optimizing Activity and Community Participation following Stroke*

Evidence Tables

Sexuality & Relationships

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Table of Contents

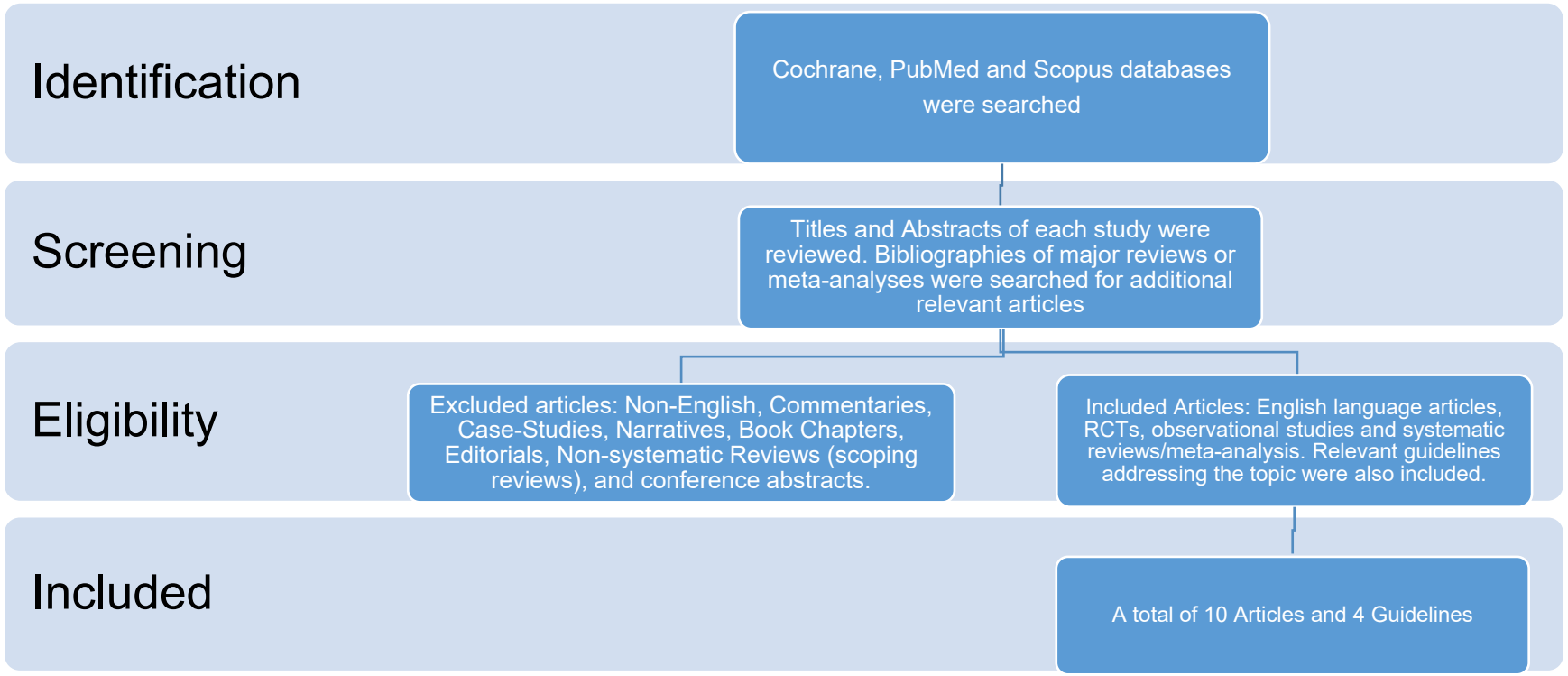
Search Strategy 3

Published Guidelines 4

Interventions Focused on Sexuality 6

References 12

Search Strategy



Cochrane, PubMed and Scopus databases were searched using terms such as Stroke AND Sex OR Sexuality OR Sexual Dysfunction OR Sexual Function. Bibliographies were reviewed to find additional relevant articles. Articles were excluded if they were: non-English, commentaries, case-studies, narrative, book chapters, editorials, non-systematic review, or conference abstracts. Additional searches for relevant best practice guidelines were completed and included in a separate section of the review. A total of 10 articles and 4 guidelines were included and were separated into categories designed to answer specific questions.

Published Guidelines

Guideline	Recommendations
National Clinical Guideline for Stroke for the UK and Ireland. London: Intercollegiate Stroke Working Party; 2023 May 4. **Available at:** www.strokeguideline.org. **(selected)**	**4.13 Recommendations (Sexuality)** A People with stroke should be asked, soon after discharge and at their 6-month and annual reviews, whether they have any concerns about sex. Partners should also have an opportunity to raise any problems. B People with sexual dysfunction after stroke who want further help should be: – assessed for treatable causes including a medication review; – reassured that sexual activity is not contraindicated after stroke and is extremely unlikely to precipitate a further stroke; – assessed for erectile dysfunction and the use of a phosphodiesterase type 5 inhibitor (e.g. sildenafil); – advised against the use of a phosphodiesterase type 5 inhibitor for 3 months after stroke and/or until blood pressure is controlled; – referred to a professional with expertise in psychosexual problems if sexual dysfunction persists.
Clinical Guidelines for Stroke Management 2022. Melbourne (Australia): National Stroke Foundation. (Community Participation & Long-term Care	**Sexuality** Consensus-based recommendations Stroke survivors and their partners should be offered: • the opportunity to discuss issues relating to sexual intimacy with an appropriate health professional; and • written information addressing issues relating to sexual intimacy and sexual dysfunction post stroke. Any interventions should address psychosocial as well as physical function.
Winstein CJ, Stein J, Arena R, Bates B, Cherney LR, Cramer SC et al; on behalf of the American Heart Association Stroke Council, Council on Cardiovascular and Stroke Nursing, Council on Clinical Cardiology, and Council on Quality of Care and Outcomes Research. **Guidelines for adult stroke rehabilitation and recovery: a guideline for healthcare professionals from the American Heart Association/American Stroke Association.** ***Stroke* 2016;47:e98–e169**	**Sexual Function** An offer to patients and their partners to discuss sexual issues ay be useful before discharge home and again after transition to the community. Discussion topics may include safety concerns, changes in libido, physical limitations resulting from stroke, and emotional consequences of stroke. (Class IIb. Level B evidence)
Steinke E, Jaarsma T, Barnason S et al; Council on Cardiovascular and Stroke Nursing of the American Heart Association and the ESC Council on Cardiovascular Nursing and Allied Professions (CCNAP). **Sexual counselling for individuals with**	**Sexuality** All stroke survivors and their partners should be asked about intimacy and sexual function at the time of the stroke, and then at regular intervals during follow-up after their stroke (Class I; Level of Evidence B). Sexual activity is reasonable for patients after stroke (Class IIa; Level of Evidence B).

Guideline	Recommendations
cardiovascular disease and their partners: A consensus document from the American Heart Association and the ESC Council on Cardiovascular Nursing and Allied Professions (CCNAP). ***Eur Heart J*. 2013 Nov;34(41):3217-35.**	

Evidence Tables

Interventions Focused on Sexuality

Study/Type	Quality Rating	Sample Description	Method	Outcomes	Key Findings and Recommendations
Stratton et al. 2020 **Australia** **Cochrane review**	All trials were assessed as high or unclear risk of bias in ≥1 domain assessed.	3 RCTs including 212 participants recovering from stroke, and in some cases, their partners. Trials included 114 men, mean age 41 years; 68 patients of an inpatient rehabilitation unit, mean age 63 years, 57% men; and 30 outpatients, median age 69 years, 100% men.	The trials compared 50 mg oral sertraline to prevent premature ejaculation vs. methylcobalamin (placebo) for 8 weeks; pelvic floor muscle training (1-2x/day x 12 weeks) vs. standard rehabilitation for erectile dysfunction after stroke; and a single, 30-minute individualised sexual rehabilitation session vs. written educational materials.	**Primary outcome:** Sexual function, sexual satisfaction **Secondary outcomes:** Partner satisfaction	Pharmacological intervention was associated with a significant improvement in sexual function at 4, 8 and 12 weeks (mean intravaginal ejaculatory latent time and a non validated measure of sexual function). Treatment was association with a significant increase in partner satisfaction. (GRADE: very low). A sexual rehabilitation program was not associated with significant improvement in median total Sexual Functioning Questionnaire Short Form (CSFQ-14) scores at 6 weeks (26 vs. 28 points) or 6 months (26 vs. 35 points). Scores ≤ 41 for females and ≤ 47 for males indicate sexual dysfunction (GRADE: low). Pelvic floor muscle training was not associated with significantly greater improvement median International Index of Erectile Function Questionnaire at 3 or 6 months (GRADE: low)
Auger et al. 2021 **Canada** **Systematic review**	5/12 TIDIeR domains were described.	8 trials (4 RCTs, 4 non RCTs) including persons recovering from stroke. The number of participants ranged from 1-68 among studies that reported sample size numbers. Mean age ranged from 41 to 67 years. The percentage of men ranged from 0-100%. Studies included patients and, in some cases, their partners.	Interventions that targeted post-stroke rehabilitation of sexuality and were provided by allied health professionals, were examined. Interventions included a structured sexual rehabilitation program, an interdisciplinary sexual rehabilitation program, a systematic sexuality-related discussion, a pelvic floor muscle training program, and a retreat for couples in which one is aphasic	**Primary outcome:** None stated a priori	Study 1) See Song et al. 2011 below. Study 2) See Samson et al. 2015 below. Study 3) See Ng et al. 2017 below. Study 4) The mean improvement from pre to post treatment in mean CSFQ-14 scores was significantly greater in the experimental group (+22.7 vs. 3.5). Study 5) In this trial that included only men, there was significantly improvement in the International Index for Erectile Function (IIEF-5) scores for men in the experimental group, but not among men in the control group, although there were no significant differences between groups pre or post intervention. At 6-month follow-up, there were no significant differences

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					between groups (p = 0.08) or within groups (pre-test versus follow-up). Study 6) In this study that included a single woman, and her partner, after 5 weeks of therapy there was significant improvement in couple's Canadian Occupational Performance Measure (performance and satisfaction) and significant improvement in the total score for intimate activities. There was also significant improvement in Quality of Sexual Function Scale. Study 7) See Guo et al. 2015 below. Study 8) After the retreat (the intervention), surveys indicated that, participants felt refreshed and had a better connection to their partners.
Ng et al. 2017 **Australia** **RCT**	CA: ☑ Blinding: Patient ☒ Assessor ☑ ITT: ☑	68 adult patients of an inpatient rehabilitation unit, recovering from stroke. Mean age was 63 years, 57% were men.	Patients were randomized to receive written educational material, or a 30-min individualized sexual rehabilitation programme and the offer of a more comprehensive intervention towards the end of their inpatient stay in addition to written educational material (factsheet produced by the National Stroke Foundation) on "sexuality after stroke", which was provided at the time of recruitment. Sexual partners of participants were also offered participation in the session.	**Primary outcome:** Sexual Functioning Questionnaire Short Form (CSFQ-14) **Secondary outcomes:** Depression, Anxiety Stress Scale (DASS), FIM and Stroke and Aphasia Quality of Life Scale-39 Generic (SAQOL-39)	At 6 weeks after the intervention, there were no differences between groups in mean change in total CSFQ-14 scores from baseline (intervention: from 24 to 26; control from 26 to 28). At 6 months after the intervention, there were no differences between groups in mean change in total CSFQ-14 scores from baseline (intervention: from 24 to 26; control from 26 to 35).
Sansom et al. 2015 **Australia** **Pilot RCT**	CA: ☒ Blinding: Patient ☒ Assessor ☒	10 patients, ≥18 years, admitted for inpatient rehabilitation following stroke, who were able to communicate (FIM>4). Patients with severe	Participants were randomized to an intervention (n=4 patients, n=1 partner) or control (n=6 patients, n=1 partner). Those in the intervention group	**Primary outcome:** Sexual Function Questionnaire Short-Form (CSFQ-14) **Secondary outcomes:**	At baseline, 92% of the participants had sexual dysfunction based on a CSFQ-14 score of ≤ 41 (women) or ≤ 47 (men). There were no significant differences between groups on the primary or secondary outcomes at 6 weeks.

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	ITT: ☒	cognitive issues, dementia, or unstable medical, neurological or psychiatric disorders, were excluded. Mean age was 66.3 years, 50% were men. 67% of participants were married or had a partner.	participated in a single 30-minute structured sexual rehabilitation session, conducted by a rehabilitation physician. The session was individualized, with content based on that of Song et al. 2011(described below). In addition, patients received a fact sheet. Participants in the control group received only the fact sheet.	Depression, Anxiety and Stress Scale, FIM, and Stroke and Aphasia Quality of Life scale–39-item generic version (SAQOL-39g) Outcomes were assessed at baseline and 6 weeks after the intervention.	Median baseline CSFQ-14 scores (and changes in median scores at 6 weeks) were: Intervention: 23 (-3) Control: 27 (4)
Guo et al. 2015 **Canada** **Quality improvement project**	NA	Stroke inpatients at a rehabilitation facility	A Plan-Do-Study-Act (PDSA) methodology was used to ensure patients had opportunity to discuss sexual health with one of their healthcare providers. The program included a reminder system, standardization of care processes for sexual health, patient-centred time points for the delivery of sexual health discussions, and the development of a sexual health supported conversation tool for patients with aphasia	**Primary outcome:** The percentage of patients each month documented to have the opportunity to discuss sexual health concerns during their inpatient stay	The percentage of patients given the opportunity to talk about sexual issues increased from 0% at months 1-3 to 80% at month 10 (end of the project). In month 9, 100% of patients had the opportunity to speak about sexual issues. Over the course of the study, the median was 55.5%.
Bugnicourt et al. 2014 **France** **Prospective Study**	N/A	104 patients <60 years, admitted to a hospital neurology department. Mean age was 48 years, 62% were men.	Patients were mailed a questionnaire one year after stroke to assess sexual functioning.	**Primary outcome:** Measure of sexual functioning (“Since your stroke, have you suffered from sexual impairment or lack of sexual satisfaction?” **Secondary outcomes:** HADS, modified Rankin scale, and current medications.	29% (30/104) of patients reported having experienced sexual dysfunction. Predictors of impaired sexual activity included: the presence of depression (OR=9.1, 95% CI 2.45-33.46, p=0.001) and use of ACE inhibitors (OR=6.0, 95% CI 2.11-17.28, p=0.001).

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Stein et al. 2013 **USA** **Cross-sectional survey**	NA	Of 268 patients included in a stroke rehabilitation research registry, 35 (14.2%) patients agreed to participate and completed the survey. Mean age was 55.1 years. The majority of patients (81.5%) were contacted two or more years post stroke.	Email or postal questionnaire used to collect data related to sexual dysfunction, fatigue, depression and ability to perform ADL.	**Primary outcomes:** Changes in Sexual Functioning Questionnaire short form (CSFQ-14), Fatigue Assessment Scale (FAS), Beck Depression Inventory, Barthel Index **Additional questions:** Related to patients' preferences regarding counseling and information support for receiving information on sexuality post-stroke.	100% of men and 58% of women met the criteria for sexual dysfunction. Mean CSFQ-14 scores were 34.45±7.04 for men and 37.5±12.38 for women. 42% of respondents indicated their sexual functioning was worse following stroke, 42% indicated no change and 5% indicated sexual functioning was improved. 71% of respondents (both men and women) rated sexual issues as moderately important, important or very important. 94% of respondents indicated that physical limitations impacted their sexual activity. 58.8% reported feeling less sexually desirable following stroke. 75% of respondents wanted more information related to sexual dysfunction, while 15.2% indicated they had already received such information. 60% of participants indicated a preference for physicians to provide information on sexual issues, while 45% preferred a nurse and 36.3%, a physical therapist. Printed materials and face-to-face discussion were preferred by 30% and 27% of respondents, respectively. 26.5% of respondents indicated a preference for receiving information early during recovery (e.g. during rehabilitation or before discharge from hospital).
Song et al. 2011 **Korea** **Controlled trial**	N/A	46 participants, (23 stroke patients and 23 spouses, recruited (convenience sample) from a hospital neurology department. Patients were included if they were cognitively intact, with a score >10 score on Barthel Index, and with	Couples were assigned to an intervention (n=12) or a control group (n=11). The intervention consisted of a 40-50 minute session covering 5 topics (information about expected changes in sexuality post-stroke, information on what a health sexual life is,	**Primary outcomes:** Sexual knowledge (Sexual Beliefs and Information Questionnaire SBIQ – Korean version), sexual satisfaction (Derogatis Sexual Functioning Inventory – DSFI), frequency of sexual	There was no significant increase in sexual knowledge between the control and experimental group (10.5 vs. 9.3, p=0.235). Couples in the intervention group reported significantly greater sexual satisfaction (mean SCIQ score 22.6 vs. 16.2, p=0.02), increased mean frequency of sexual activity per month (4.3 vs. 1.9, p<0.001) and a mean increase in the frequency of sexual intercourse per month (3.3 vs. 1.2, p=0.001),

Study/Type	Quality Rating	Sample Description	Method	Outcomes	Key Findings and Recommendations
		no previous stroke hospitalizations. Mean age of stroke patients was 57.9 years, 83% were men.	counseling on common fears associated with post-stroke sexuality, tips to prevent post-stroke sexual dysfunction and a discussion of frequently asked questions about post-stroke sexuality), presented on the day before discharge from hospital to the patient and their spouse. Patients receiving the intervention were also given written information for future reference. The control group received the intervention after 1-month follow-up data was collected.	activity (modified version of the sexual frequency scale developed by McCabe and Taleporos). Assessments were completed at a one-month follow-up visit for both the intervention and control groups.	compared with couples in the control group.
Carlsson et al. 2007 **Sweden** **Prospective study**	NA	56 patients, <75 years admitted to a stroke unit following first-ever stroke, and their partners were recruited. Median age of patients and spouses were 60 and 59 years, respectively. Most patients had experienced mild stroke (median Barthel Index score at 1 week was 100).	Life satisfaction was assessed at 1 week and one year following stroke by both patients and spouses using the LiSat-9. The checklist contains items assessing: i) satisfaction with life as a whole, ii) health (I item), closeness (3 items), iii) spare time (2 items) and provision (2 items). Scores were compared with an age-matched “norm group”.	**Primary outcome:** Proportion of patients and spouses who were satisfied across the 5 LiSat-9 domains, at one year following stroke	Compared with the norm group, both patients and spouses were significantly less satisfied with life across many domains of the LiSat-9. Compared with the norm group, a greater percentage of patients indicated they were not satisfied with life: Life as a whole (39% vs. 77%, $p<0.05$), ability in self-care (71% vs. 93%, $p<0.05$), sex life (34% vs. 58%, $p<0.05$), leisure time (38% vs. 71%, $p<0.05$), and vocation (45% vs. 67%, $p<0.05$) Compared with the norm group, a greater percentage of spouses indicated they were not satisfied with life: Life as a whole (64% vs. 77%, $p<0.05$), closeness with partner (67% vs. 86%, $p<0.05$), sex life (41% vs. 58%, $p<0.05$) and leisure time (52% vs. 71%, $p<0.05$). The proportion of couples in which both partners agreed they were satisfied was: leisure time 20%, sex life 25%, vocation/occupation 29%, life as a whole 30%, finances 47%, social contacts 48%, relationship with partner 60%, family life 66% and ability in self-care 66%.

Study/Type	Quality Rating	Sample Description	Method	Outcomes	Key Findings and Recommendations
Buzzelli et al. 1997 **Italy** **Prospective study**	NA	72 patients (57 men and 15 women) admitted to a single rehabilitation unit following first-ever stroke. Mean age was 64 years.	Patients and their partners were interviewed, separately at one month and one year following stroke, using a structured interview	**Primary outcome:** Rates of decline in sexual activity following stroke	At one year, 60 patients (83.3%) reported a decline in sexual activity, while 8 patients and their partners reported an increase in activity. No association was found between gender or side of lesion and decline in sexual activity. Duration of marriage was the only variable significantly predictive of weekly sexual performance. Age, education, disability and depression were not significant predictors. High levels of activity prior to the stroke event did not predict maintenance of sexual activity. Variables associated with disruption of sexual activity were fear of relapse, belief that one must be healthy to have a sex life and partner who is “turned off” at the prospect of sexual activity with a “sick person”.

Abbreviations

CA: concealed allocation	CI: confidence interval	ITT: intention-to-treat
OR: odds ratio	OCEBM: Oxford Centre for Evidence-Based Medicine	

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