APPENDIX 1: The PT-BCT Checklist

#	BCT name	0	Comment
Behavioral			
1	Setting graded activities or exercises		
2	Physiotherapist modeling		
3	Prompting physical skills acquisition		
4	Providing graded exposure		
5	Shaping		
6	Providing positive reinforcement		
7	Prompting patient modeling/ social comparison		
8	Role modeling		
9	Relaxation training		
10	Pacing		
11	Prompting homework		
Cognitive			
12	Providing general information on behavior-health link		
13	Providing information on consequences		
14	Providing information on other's approval		
15	Prompting intention formation		
16	Cognitive restructuring		
17	Prompting visualization		
18	Providing stress management		
19	Prompting barrier identification		
20	Problem solving/maintenance/dealing with flare ups		
21	Planning social support		
Motivational			
22	Motivational interviewing		
23	Prompting specific goal setting		
24	Seeking agreement to a behavioral contract		
25	Prompting self-monitoring of behavior		
26	Prompting review of behavioral goals		
27	Facilitating internal reinforcement		
28	Providing feedback on performance		
29	Providing booster sessions		

PT BCT Companion Document

Behavioral techniques

1. Setting graded activities or exercises[1–3]
   - Collaboratively identifying important / relevant, suspended/ restricted activities
   - Explaining treatment rationale
   - Establishing a baseline activity tolerance
   - Collaboratively setting quotas (approx. 80% of baseline)
   - Instructing patient to complete selected activity to predetermined quotas
   - Assessing response and collaboratively adjust quotas
2. Modeling by the Physiotherapist[1,4,5]
   - Physically demonstrating a movement, activity or behavior
   - Verbally describing a personal situation, experience, self-assessments or movements
3. Prompting Physical Skills Acquisition[6–8]
   - Providing knowledge of back biomechanics, fitness principles
   - Encouraging practice of basic skills required to achieve a goal (voluntary activation of muscles, coordination of motor skills, strength, endurance, flexibility and aerobic fitness)
   - Encouraging the chaining of basic skills to perform advanced or applied skills
   - Encouraging generalization of advanced skills to activities associated with pain and or disability
   - Encouraging exercise progression
   - Identifying exercise cues for correct performance such as indicating where a stretch should be felt.
   - Incorporating immediate therapist monitoring, ''how does it feel?''
   - Confirming knowledge, abilities and skills through physical performance and consideration of the purpose of an exercise, ''What are we trying to do?''
4. Graded Exposure[9]
   - Measuring levels of fear avoidance
   - Collaboratively establishing a hierarchy of feared activities
   - Educating on fear avoidance, neuroplasticity, exposure therapy and / or safety of the tasks
   - Prompting gradual and systematic exposure in a graded fashion to activities in the individual fear hierarchy
   - Progressing to the next feared activity when the patient's fear avoidance concerning the previous activity has been decreased
5. Shaping[1,10]
   - Providing immediate feedback to an individual through visual, auditory, sensory / tactile or proprioceptive means to correct physical movements, activities, behaviors and identified cognitions
   - Used closely with technique 3, prompting physical skills acquisition.
6. Providing Positive Reinforcement[1,2,10]
   - Identifying individual patient reinforcers
   - Providing immediate, positive and external reinforcement of movements, activities or behaviors that are associated with short term goals which are correctly performed (praise, visual feedback, physical encouragement)
   - Used closely with techniques 3 and 5, to create the desired movement or behavior.
7. Prompting Patient Modeling / Social Comparison[1,4]
   - Encouraging patient demonstration of a movement, activity or behavior to other patients in a group setting and critiquing those performed movement patterns for ''observational learning''
   - Encouraging patients to verbally describe a personal situation, experience, self-assessment or movement
   - Relating experiences, scenarios, comments from other comparable patients outside the class and using them as examples
8. Role Modeling[1,4]
   - Educating patients on how to be an example of healthy behaviors to others with chronic pain in a clinical, home or work setting
   - Encouraging and/or providing opportunities for patients to persuade others of the importance of adopting or changing behavior in a clinical, home or work setting
   - Identifying others who exemplify attitudes, behaviors and using them verbally, in pictures, real life observation or video to explain a concept (sports icons, other individuals)
   - Identifying a patient within the treatment program who exemplifies the desired beliefs, attitudes, behaviors being encouraged and then using their situation to explain a concept either through verbal description or physical demonstration
9. Relaxation Training[11]
   - Educating on the role of relaxation (break pain-tension-pain cycle, deal with stress, means of dealing with their pain)
   - Assessing and practice breathing
   - Practicing the application of relaxation (progressive relaxation, guided fantasy)
   - Educating on the application of relaxation in ''risk'' situations and every day settings outside the clinic
10. Pacing[2,12]
    - Educating on the over-activity-under-activity cycle
    - Educating on activity scheduling, reducing speed of activities, scheduling breaks, maintaining a constant pace or separating tasks into manageable components, setting quotas
    - Educating on gradually increasing activity levels without significant increases in pain
    - Prompting pacing practice especially during ''at risk'' activities (home or clinic)

11. Prompting Homework[1,12]
    - Encouraging practice of activities, movements, behaviors or monitoring and challenging of cognitions outside the clinical setting, often outlining what exercise, how to determine the amount and frequency.
    - Providing written materials, verbal instruction and encouragement concerning the performance of established activities outside the clinical setting
    - Encouraging the use of cues to remind patients to practice (time of day, alarm on watch or computer)
    - Encouraging the patient to outline a plan, either verbally or in writing, to perform homework

Cognitive techniques

12. Providing General Information on the Behavior Health Link[1,7]
    - Providing education concerning the relationship between behavior and health (importance of maintaining or increasing activity)
    - Providing information on the facts about the relevant condition, such as prevalence and persistence of LBP, and what behaviors may result due to this condition
13. Providing Information on Consequences[1,7]
    - Providing information focusing on the ''benefits and costs of action or inaction,'' performing or not performing the behavior
14. Providing Information about Others' Approval[1]
    - Providing information about the effect of other's approval or disapproval on their behavior, influences of their society
    - Providing guidance on how to maintain a behavior such as performing exercises, despite the disapproval of others
15. Prompting Intention Formation[1]
    - Encouraging the patient to consider making positive behavioral changes and what that might look like.
    - Encouraging the patient to make a ''behavioral resolution''
    - Giving patients the opportunity to make changes by leaving the choice up to them such as telling them they can stay and perform exercises, or go home early, let patients chose a course of action
    - Prompting the patient to consider ways of fitting exercise and activity into their lives
16. Cognitive Restructuring[10,13,14]
    - Providing education concerning pain and its meaning, hurt does not equal harm, the role of maladaptive thoughts and emotions
    - Providing education on the neurophysiology of pain
    - Reassuring patients that despite their pain, there is nothing seriously wrong
    - Prompting patients to demonstrate their understanding of pain
    - Prompting examination of thoughts concerning movement, activities, and behaviors
    - Educating on how inaccurate thoughts may interfere with improvements in their behaviors through vignettes and examples (may be used with techniques 2 and 7, modeling by the physiotherapist and prompting patient modeling/social comparison)
    - Prompting the challenging of cognitions
    - Prompting the focus on function or goal accomplishment, instead of pain
17. Visualization[1]
    - Prompting the envisioning of the ''risk'' environment or setting when performing physical activities within the clinic.
    - Prompting the patient to ''see'' themselves successfully completing a feared or ''risk'' activity, movement or behavior in a variety of settings from the clinic to the work or home environment
18. Stress Management[1]
    - Educating on the impact of stress on physical movements, function and pain perception
    - Educating on means of dealing with stress (this may include the use of techniques: 9, relaxation, 10, pacing and 16, cognitive restructuring)
19. Prompting Barrier Identification[1]
    - Encouraging the identification of future problems or specific obstacles to performance that may prevent goal attainment such as a lack of time, ''increased pain (flare-ups), fearful thoughts and decreased social support''
    - Encouraging the identification of obstacles in writing
    - Encouraging the consideration of the home, work and social environment when developing a list of potential barriers
20. Problem Solving/Maintenance and Dealing with Flare-ups[1,3,8,12,14]
    - Providing education on flare-ups and indicating that they are normal and not a sign that back symptoms are worsening.
    - Providing education on coping strategies to deal with identified barriers (may include techniques 9, 10, 18: relaxation, pacing, stress management)
    - Encouraging activity resumption as soon as possible after a flare-up and stressing the importance of having a plan in place to resume activity
    - Prompting cognitive problem solving by collaboratively developing strategies to cope with identified barriers or flare-ups (setting criteria for visiting health care providers, maintenance and progression of their home exercise plan, activity modification or use of techniques 9 and 10, relaxation and pacing)

- Prompting problem solving with focus on physical and functional activities
- Prompting the selection of a preferred course of action and record a personal maintenance plan to deal with flare-ups or barriers
- Reviewing the personal maintenance plan to clarify or collaboratively modify as necessary to ensure the patient is prepared to deal flare-ups or barriers
- Relaying to the patients that physiotherapy support is available to assist with taught self-management strategies as required after discharge
- Prompting maintenance by reminding patients of their newly acquired knowledge and problem solving skills (Techniques 21, planning social support, 23,prompting specific goal setting, 25, prompting self-monitoring of behavior, 26, prompting review of behavioral goals and 27, facilitating internal reinforcement may also be highlighted)
- Prompting the application of newly acquired knowledge to everyday situations

21. Planning Social Support[1]
    - Prompting the consideration of how others could alter behavior to provide help and/or instrumental social support
    - Prompting the establishment of a ''buddy'' or social support system for maintenance or improvement of current activity levels or behaviors

Motivational techniques

22. Motivational Interviewing[1]
    - Determining a patient's readiness to change
    - Discussing the decisional balance if the patient is not ready to change
    - Prompting change using the decisional balance tool and discussion of replacing maladaptive behaviors
    - Discussing other techniques to achieve desired behavior (self-monitoring, shaping, recognize and reject negative stimuli, recognizing reinforcers)
23. Prompting Specific Goal Setting[1,10]
    - Determining relevant activities that are either decreased or avoided due to pain and disability
    - Collaboratively setting specific, measureable, achievable, realistic and timely goals that will include the frequency, intensity, and duration of the outlined decreased or discontinued activities. Additionally, one of the following must be included, the where, when, how or with whom must be specified
    - Planning a time for collaborative goal review
    - Prompting the patient to consider and identify exercises that may be relevant for their specific goal setting, ''You're going to like this one ... Those of you that find this one difficult ...''
24. Establishing a behavioral contract[1]
    - Prompting the signing of a written contract witnessed by another that outlines the expected behavior
25. Prompting self-monitoring of behavior and cognitions[1,3,8]
    - Prompting the maintenance of a record of completed activities, exercises or behaviors through either a diary or questionnaire completion
    - Prompting the monitoring of the occurrence and challenging of maladaptive cognitions and behaviors
    - Encouraging patients to pay attention to what they are doing and should be doing in class as well as at home, a ''self-check in''
    - Encouraging patient monitoring through a regular check in with the physiotherapist.
26. Prompting review of behavioral goals[1,3]
    - Encouraging the patient to reconsider previously set goals and intentions at regular intervals
27. Facilitating Internal Reinforcement[10]
    - Educating on the activities, movements, behaviors or cognitions to be reinforced
    - Educating on the importance of taking credit for achievements, ''you must be very pleased with your progress''
    - Highlighting goal achievements, performance improvement, increases in function or duration of activities while decreasing the frequency of positive reinforcement from consistent, to occasional to complete withdrawal
    - Prompting the identification and use of internal reinforcers (self-praise, small treats, recording and recognizing progress, a night out, a new pair of shoes)
    - Confirming new knowledge and skills acquisition (may be used with technique 28, providing feedback on performance)
    - Confirming skills application reasoning, ''What should he do?'' ''What do you do if you are asymmetrical?'' ''When and why should you do this exercise?''
    - Managing expectations, ''Some of you may not notice a change for six months but stick with it, and change will occur''
    - Can be used with Technique 8, prompting role modeling
28. Providing Feedback on Performance[1–3,15]
    - Providing summarized feedback on performance after reviewing goal achievements through observation, use of outcome measures, review of patient documented data on activities, movements, exercises, behaviors or cognitions
    - Identifying discrepancies between set goals and achieved performance, or discrepancies in relation to the performance of others

- Collaboratively discussing performance and making recommendations for future performance and goal setting
- Discussing in a group format, a summarized version of patient performance in general, "at the beginning of the class this was the most difficult exercise for all of you but now you are all performing it perfectly"
- Often used with techniques 7, prompting patient modeling/social comparison and 27, facilitating internal reinforcement

29. Booster Sessions[1]
    - Planning follow-up sessions beyond the period of direct patient care at short, medium or long-term follow-up time frames
    - Performing follow-up care through "phone calls, one-on-one or group sessions at short, medium or long-term follow-up time frames"

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