



HOW TO WRITE A CLINICAL CASE REPORT

By Julie Dais, PhD

Note: this course incorporates terminology and skills addressed in the first two MTABC online courses (*How to use Databases to Find Massage-Related Research Publications* and *How to Read a Research Article*). It is strongly recommend that you at least look over these documents before starting this course, even if you do not actually write the tests for CEC's.

A clinical case report is a written account of the course of treatment and associated outcomes for an individual subject, client, or patient. It consists of several sections including patient history, description of the condition, etiology (cause of condition), signs and symptoms, diagnosis/assessment, treatment, prognosis and follow-up of an individual patient. However, not every client warrants a detailed case report.

Case reports are published for a number of reasons:

1. to share discoveries with other massage therapists or health care professionals
2. to test new hypotheses
3. to increase the body of knowledge in the field (which is quite limited in massage therapy)
4. to generate ideas for future pilot studies and larger clinical trials in order to provide valid, clinical evidence that massage is effective for the treatment of a variety of conditions
5. to continually strive to improve assessment and treatment protocols
6. to be able to add research capabilities to a résumé (possibly to successfully apply to graduate school for a Master's degree or PhD).

Questions to ask yourself before you decide whether or not to write a case report:

1. Is this case interesting and unique? Would it add to the literature base?
 - maybe the case report is about:
 - a. an unexpectedly surprising outcome to treatment
 - b. an adverse reaction to treatment
 - c. an interesting condition or presentation of a condition
 - d. a novel approach to treating a condition
2. Where are you going to submit your case report for publication? Once you decide, you will need to find the directions for authors and follow those for formatting the paper. Here are some examples of places you could submit your case report in order to be publish:
 - International Journal of Therapeutic Massage and Body Work: Research, Education and Practice (first issue this August – an electronic journal)
<http://journals.sfu.ca/ijtmb/index.php/ijtmb/about/submissions#authorGuidelines>
 - Massage Therapy Foundation Practitioner Case Report Contest
<http://www.massagetherapyfoundation.org/PractitionerContest.html>
 - MTABC Research Report (contact Bodhi Haraldsson in the MTABC office)

3. Can you get permission from your client to write about their treatment but maintaining client confidentiality? i.e. their names will not be revealed, but their patient history will be presented including as age, gender, nature of complaint, and health history. You will need a signed consent form as most publishers will not read the case report without one. There is a sample consent form included in Appendix A at the end of this course.

GETTING STARTED

Maybe you have been interested in a particular condition for a while and have developed a successful treatment protocol for it. Have you searched the literature to see if anyone else has done something similar? You should start with this step, because if someone has already published a very similar case study, or even a clinical trial, your case report may be deemed redundant and not publishable. After this step, you must decide on an ideal subject for the study. Besides presenting with the condition in question, there are other things to look for in your subject (see below).

What if you are part-way through treating a client and you are seeing amazing results? Can you start a case report in mid-treatment? It all depends upon whether or not you did a thorough assessment prior to starting treatment. You would need to repeat the assessment at the end of the treatment process in order to compare results. If you didn't assess before you started, you can't write a clinical case report. You could still write a subjective case study for publication in a massage trade magazine, but evidence to support your observations will be lacking.

Step 1: Choosing a Subject

Obviously when choosing a subject, he or she must present with the condition you want to investigate. They also must not exhibit any contraindications to the treatment and depending upon your treatment goals, you may want them to be free of other complications such as systemic disorders (diabetes) or confounding degenerative conditions. For example, if you are testing a treatment protocol for osteoarthritis of the hip, you may want to exclude subjects with degenerative disc disease or diabetes. On the other hand, you may want to see the effectiveness of treating a subject who has OA of the hip and diabetes. Your patient history and hypothesis just need to indicate this.

Subjects should also be willing to comply with any homecare you give them and any directions such as recording their medication usage. Subjects should also recognize the importance of showing up for all scheduled treatment sessions or be willing to reschedule any missed ones as soon as possible.

Also, the subject must read and sign the patient informed consent form so that they are aware of any possible adverse effects of treatment (possibly pain) and that they can withdraw from treatment at any point (see Appendix A).

Step 2: Searching the Literature

Once you have chosen a subject for your case report, you will need to do a thorough literature search on the subject's condition and see if massage has been used to successfully treat the condition. You are looking for evidenced-based publications whereby the treatment methods



used in the studies have proven to be successful. What do we mean by evidenced-based and proof? Watch for a future online course addressing these issues. For now, the best evidence for effectiveness of treatment will come from randomized, controlled clinical trials or systematic reviews (meta-analyses) published in peer-reviewed journals. If you can't find these types of studies, you may use other sources of information to support what you plan to do. More on this later.

If you cannot find anything in the literature regarding the treatment approach you are using and/or the condition in question, you will have to expand your search. You would then want to see what other methods of treatment have been used for this condition and if these methods were effective. In turn, you can search your treatment modality to see if it has been used to successfully treat other conditions.

Develop a keyword list for your search. Take into account various terms for the condition such as “tennis elbow”, “lateral epicondylitis”, tendonosis, tendonitis, etc. Plus take into account any treatment modalities that may have been used such as ultrasound, cryotherapy, friction, “friction massage”, laser, “strengthening exercises”, etc. Also, search the literature (textbooks included) to determine the best methods of assessment. Any recent research publication on the subject will list which assessments they used and may even comment on the reliability of the assessment tool.

Step 3: Write Your Clinical Case Report

Note, case reports are written in narrative form, not point form. They are also written in the third person (i.e. do not use “we” or “I”). Typically most publishers request that the case report be word processed using 12 point font and with 1.5 inch margins. See the sample case reports on the MTABC website.

COMPONENTS OF A CLINICAL CASE REPORT

Title (don't actually write “Title”)

- give a descriptive title (include important keywords in the title such as the condition and method of treatment)
- under the title, include your name, credentials, and contact information (usually email address)
- note: at the end of the case report (after the References Cited section) you can include a short biography of relevant information about yourself (i.e. any publications you have, courses/workshops you teach, clinic you work at, your massage specializations, acknowledgements)

Note: The bolded headings that follow are actually headings in the case report

Abstract

- optional
- brief summary of your case report; usually a maximum of 150 words
- it is factual, offering no opinions
- includes:
 - the purpose or objective of the study

- a brief background, context of study
- a simple description of research design and methodology
- results or outcomes
- conclusion

Keyword List

- List the relevant keywords or phrases that could be used in an internet or PubMed search to find your article
- i.e. “massage therapy”, “neuromuscular therapy”, “low back pain”, lymphedema

Introduction

- give a brief description of the condition (pathology, relevant anatomy, prevalence, progression of the condition)
- describe other methods of treating the condition
- give your rationale for the treatment protocol you chose
 - is it more effective than other methods of treating the condition?
 - is it safer? i.e. do medications have side-effects? does surgical intervention have complications?
 - is it cheaper?
- cite any references where you have borrowed information
 - when you borrow information you must put it in your own words
 - place the author’s last name and the year in brackets (Smith, 2005)
 - quotes are rarely used in health science research publications, so don’t give exact quotes
- the references can be:
 - magazine articles
 - textbooks or other books
 - verbal interactions with experts (cite expert’s name, date and in the References Cited section include location of conversation)
 - information on websites (cite a keyword in the article, date retrieved, and in the References Cited section include the website URL or address)
 - for more information on citing references, use the APA style guide
 - <http://www.library.ubc.ca/home/about/instruct/apastyle.html>
- the introduction should conclude with your hypothesis or expected outcome for the case study
 - you may have a primary outcome and one or more secondary outcomes
 - i.e. The primary outcome of this treatment for the condition is expected to be reduced pain in the area with secondary outcomes of improved sleep and range of motion.

Subject Case History

- describes the subjective features of the case
 - personal information
 - age, gender, occupation, other relevant personal information
- details of complaint
 - reason for visit
 - onset, duration frequency
 - description of pain

- physical limitations
- anatomical location of complaint
- aggravating/relieving factors
- prior treatment and results
- patient expectations about condition and recovery
- history of possibly related health problems
- other?

Assessment

- also known as the outcome measures
- you can start by referring to the subject's medical records and X-ray reports
- the choice of physical assessments is probably the most important part of a case report, but it is often the weakest
 - the assessments chosen must be able to reveal the effectiveness of the treatment
- your choice of outcome measures should be supported by the literature wherever possible
 - search online databases for research studies that indicate the outcome measures used
 - even articles in massage trade magazines can be a source of ideas
 - textbooks such as McGee's *Orthopedic Physical Assessment* are good sources
 - you could also follow the Cyriax Model for assessment
- the MTABC has posted Guided Assessment Protocol (GAPS) documents on their Members Website under Research then Resources
 - GAPS are documents you can print off and use in your practice
 - they include a large number of questions about symptoms, a variety of relevant examinations and also special tests
 - the GAPS were developed by the College of Massage Therapists of BC, the Massage Therapists Association of BC and the Physical Medicine Research Foundation
 - there are GAPS for:
 - low back
 - mid-back
 - knee
 - ankle
 - hip
 - pelvis
 - wrist
 - there is a separate algorithm or flow chart for the neck
- for the assessments you use to be of any use, they must occur:
 - before you begin any treatment and at the completion of your treatment plan
 - you could also assess before and after each treatment session or at the mid-point of your project treatment plan (depending on time available and cost to client)
- note that the actual outcomes shouldn't be in the assessment section of the case report (they should be in the Outcomes section)
- you should present the pre- and post- assessment data in a table or better yet, a graph

Treatment Plan

- first, start with a statement of the treatment goals

- they must be clear and based on the assessment findings and goals of the subject
- are the subject's goals realistic?
- i.e. if they want to be pain free or "cured", is this a realistic goal?
- what is the best treatment "dosage" for the subject and their condition?
 - consider the assessment findings, the client's treatment goals, and cost effectiveness
 - dosage includes:
 - length of each treatment session (30 minutes, 1 hour, etc.)
 - frequency of treatment sessions and total number of treatments
 - i.e. twice per week for two weeks, followed by once per week for 4 weeks for a total of 8 treatments
 - or maybe only 1 treatment was required to see an effect
- the description of the actual procedure should be included
 - there are two options for this:
 1. minimal procedure description
 - brief description of the procedure with the names of general strokes used along with duration and location on the body
 2. detailed procedure
 - a step-by-step description of treatment protocol which is clear enough for an RMT to replicate
 - this would be useful if you are following a unique treatment protocol or deviating from what would be considered a traditional approach
- include appropriate home care and/or appropriate hydrotherapy (if relevant)
- were there any modifications to the protocol made along the way as the treatment process progressed?
 - i.e. after several treatments, did you modify the treatment protocol? Why?
- again, you should cite your sources of borrowed information regarding treatment whenever possible

Outcomes

- this is the section where the assessment findings (outcome measures) are presented
- you must include pre- and post- assessment findings so that a comparison can be made
 - how would you know if massage was effective if baseline measures are not available for comparison?
- if possible, present the pre- and post- treatment results in tables and/or graphs
 - include a title for each (Table titles above, Figure (graph) titles below)
- use the help function in Word to learn how to create a simple table
- to create a graph (known as a Figure) in Excel see Appendix B
- give a brief, written explanation of the trends in the results with reference to the table or graph or Figure
 - i.e. here is a reference to the graph in the Appendix B
 - The Active Range of Motion (AROM) of the right wrist gradually increased over the course of the treatment (Figure 1).
 - don't state each individual value when it is given in the table or graph
- if the data you collect is not suitable for tables or graphs, then describe it
 - i.e. physical limitations, tender points
- if possible, perform a long term follow-up assessment



- a few weeks post-treatment or even 3 to 6 months after
- comment on general health outcomes related to:
 - refer back to patient history to ask about things such as pain, physical limitations
 - meeting treatment goals/objectives (or did the goals change as the treatment progressed)
 - patient compliance (did the patient follow homecare, show up to scheduled appointments, monitor medication intake?)
 - cost effectiveness (if the treatment took too long, is it realistically affordable?)
- were there any modifications to the protocol made along the way as the treatment process progressed?
 - i.e. after several treatments, did you modify the treatment protocol? Why?

Discussion and Conclusion

- in this section you should connect the outcomes of the treatment back to your hypothesis or objectives in the Introduction section
- try to answer the following questions:
 - What were the salient features of the case?
 - Was the treatment plan appropriate for the condition?
 - Was the outcome expected?
 - Were there unexpected or adverse reactions to the treatment? If so, speculate as to why.
 - Does the case support or contradict previous knowledge?
 - What further interventions/studies can you suggest?

References Cited:

- the “References Cited” section is at the end of the case report
- again refer to the APA style guide
- <http://www.library.ubc.ca/home/about/instruct/apastyle.html>
- where you have borrowed information and put it into your own words, cite the author and year (or website keyword and date retrieved)
- in this section, present the full references of the sources you cited using the following guidelines (see the Reference Section at the end of this article for examples)
 - format for journal articles: Author, Year, *Title of Article*, Journal, Volume, Page Numbers
 - format for books: Author, Year, *Title of book*, (Edition), Publisher, City of Publication
 - format for websites: try to find original source (i.e. for the original journal article or book) if not, then include a keyword for the website that you used when you cited the source, the website’s address, date retrieved and author if available

References:

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Menard, Martha Brown, 2003. *Making Sense of Research: A Guide to Research Literacy for Complementary Practitioners*, Curties-Overzet Publications, Inc., Toronto.

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<http://www.massagetherapyfoundation.org/PractitionerContest.html>



APPENDIX A

PATIENT INFORMED CONSENT FORM

I agree to be a participant in this massage therapy case study. The procedures have been explained to me and any questions have been answered to my satisfaction. The potential benefits and any harm or discomfort I may experience have also been explained to me.

I understand that I may ask any questions about my treatment or the case study at any time.

I am aware that I can withdraw from the study at any point. However, I am also aware that my adherence to the treatment schedule and home care directions is crucial to the therapist's success in this project. I will contact the therapist in advance, if possible, if I must miss a session and reschedule.

I understand that the information collected from me may be published, but anonymity is ensured. The following will not be used: name, date of birth, address. The following may be used: age, gender, health status (relevant to treatment).



I, _____, agree to participate in the case study conducted
(name of participant)
by _____, at _____.
(name of researcher) (location)

Participant's Signature: _____ Date: _____

Witness's Name: _____

Witness's Signature: _____ Date: _____

CREATING GRAPHS IN EXCEL

- when creating graphs, always try to present both pre-treatment and post-treatment results together in one graph so comparisons can be made (see Figure 1)
- you may have to present separate tests in separate graphs
- bar graphs are better for presenting multiple tests (see Figure 2)

DIRECTIONS

- open an Excel Worksheet
- type information for the X axis in column A (usually assessment days: 1, 2, 3, etc.)
 - in row one (column A) include the title of that axis
- columns B and beyond are for any data you collect such as degrees for ROM
 - in row 1 for columns B and beyond, include the title for that series (this will go in the legend)
- when you finish inputting the data, select columns B and beyond
 - then click on the Chart Wizard icon at the top
 - select Chart Type - Line and next
 - your data range should be okay
 - skip giving it a title (you can add it below the Figure once you past it into your case report)
 - title the X axis (bottom axis) with the independent variable (i.e. Day 1, Day 4, Day 8, etc.)
 - title the Y axis (left axis) with the dependent variable
 - i.e. Active Range of Motion (degrees), Sleep (hours), etc.)
 - then save “as an object in” to make it easier to resize
- when it is finished, move the title below the graph
- click on the background of the graph and copy and paste into your Word document
 - you can’t edit the graph in Word (only in Excel)

