**Clin-IQ  
Preparation Toolkit**

***2016-2017***

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**Clin-IQ 2016-2017 Schedule**

|  |  |  |
| --- | --- | --- |
| **DATE** | **DIDACTIC CONTENT** | **TASKS AND HOMEWORK** |
| **Prior to**  **July 13, 2016** |  | * Pick teams |
| **July 13, 2016**  1:30 – 2:30 | **Session 1:**  **Brief Re-introduction to Clin-IQ**  What is this about exactly?   * Talk about the basics of Clin IQ * Choose question rankings (1,2,3) for your team and turn in for question matching for each team * Make team contracts, sign, and turn in for scanning to D2L * Be SUPER EXCITED that there is more to come! | **HOMEWORK due before August 24, 2016:**   * Choose question * Meet with librarian * Narrow your articles to at least 6 of the appropriate type * Put all reference material in Dropbox in D2L * Meet with mentor to discuss question, possible stumbling blocks, issues. * Meet with mentor to review your top handful of papers. |
| **Aug 24, 2016**  2:30 – 3:30 | **Session 2.**  **So what do I do with these articles again?**   * How to evaluate an article * How to know it is relevant to your question * How to summarize the article * How to take the article summaries and make a first draft | ***DUE: References uploaded to D2L, should have met with your mentor or Clin IQ director team at least once.*** |
| **Oct 12, 2016**  1:30 – 2:30  (topic change to postpone peer review first draft session) | **Session 2.1**  **Working session**   * Bring your paper and articles (electronic version is OK if that works for you). If you need someone to review your article for you it would probably be best to bring a paper copy of whatever article you need help with. * This will be a \*working\* session. * Come prepared with questions on challenges you are having. | **HOMEWORK due before 9am November 9, 2016:**   * Write first draft * Meet with mentor to review first draft * Make edits as necessary * First draft is **due** **by 9am** on **Nov 9th**. Jessica will print them from Google Docs and bring them to the peer review session |
| **Nov 9, 2016**  2:00 – 3:00  (date change) | **Session 3.**  **PEER REVIEW**   * Review each other’s papers and complete worksheet for the papers reviewed. * Thoughtful constructive comments/critiques | ***DUE: Mentor-approved first draft, ready for peer review***  **HOMEWORK due before Nov. 30, 2016:**   * Properly cite references using author’s name (not superscript numbers1—thesewill come at the very end of the process) * Create Reference List using AMA Style (pg 8) * Review and incorporate Peer Review edits   Meet with mentor to review the above |
| **Nov 30, 2016**  3:00-4:00  (date added) | **Session 4.**  **How to Make a Table/Figure/Graph**   * Your table/figure/graph should be an ***original*** and can be a simple representation of something you’ve learned | ***DUE: Reference List with proper in-text citations (using names not superscript numbers) and final draft (minus figure)***  **HOMEWORK due before Jan 25, 2017:**   * Create original graphic * Meet with mentor to review graphic * Once graphic is complete, put it in Google Doc or upload to Dropbox in D2L |
| **Jan 25, 2017**  2:30 – 5:00 | **Session 5.**  **MOCK PRESENTATIONS**   * You will present your Clin IQ with slides per guidelines to your peers. * Peers and faculty will offer constructive critique for improvement of presentation. | ***DUE: Final Draft with Graphic and Powerpoint Presentation***  **HOMEWORK:**   * Review peer comments and make changes with the advice of your mentor and in accordance with the grading rubric |
| **Feb 8, 2017**  12:15 – 3:30 | **Session 6.**  **GRAND ROUNDS PRESENTATIONS**  **(clinic starts at 3:30pm)**   * ***Please dress professionally*** (No T-shirts or sweatshirts. Scrubs are okay if you’re on a Service but wear a nice clean jacket over them.) | ***DUE: Final presentation with graphic***  **HOMEWORK due before Apr 5:**   * Address and resolve any remaining comments in Google Docs. * Mentor must **read** and **sign-off** on final document before Apr 5, 2017. |
| **Apr 5, 2017**  12:15 – 2:00 | **Session 7.**  **Clin-IQ Question Writing for 2017-18**  **Grand Rounds**  **(no intern conference)** | ***DUE: Publication-ready paper. All comments in Google Doc must be addressed and resolved. Mentor must sign-off on completed project.*** |
| **Apr-May 2017** | **Posters completed for printing** |  |

**Clin-IQ Program Purpose and Goals**

**PURPOSE AND GOALS**

**Purpose**

Our purpose in this course is to teach residents how to address their own clinical questions encountered in daily practice in a fairly simplistic manner which incorporates the most recent available data in addition to the widely-available review sites. We are going to design the course to help residents think critically about data presented in various ways by various individuals and entities. Unfortunately, many sources of data are not reliable and it is critically important that physicians be able to interpret data accurately. As patients become more computer savvy and can access papers to bring to visits, it is necessary for physicians to be able to evaluate these types of information and give patients accurate feedback to help with shared-decision making between physicians and patients.

More specifically for residency requirements, we intend to provide a pathway for residents to meet specific requirements for graduation as designated by the ACGME. In addition, we provide a specific mechanism through this program to allow residents to be evaluated on multiple Core Clinical Competencies that are part of their progress evaluation in residency. It is our intention that this process will provide the residents the opportunity to learn and grow in these specific Core Clinical Competencies as they progress through residency.

|  |  |
| --- | --- |
| MK-1 | Demonstrates medical knowledge of sufficient breadth and depth to practice family medicine |
| MK-2 | Applies critical thinking skills in patient care |
| PBLI-1 | Locates, appraises, and assimilates evidence from scientific studies related to the patients' health problems |
| PBLI-2 | Demonstrates self-directed learning |
| PBLI-3 | Improves systems in which the physician provides care |
| PROF-1 | Completes a process of professionalization |
| PROF-2 | Demonstrates professional conduct and accountability |
| C-3 | Develops relationships and effectively communicates with physicians, other health professionals, and health care teams |
| C-4 | Utilizes technology to optimize communication |

**Goals**

The specific Clin-IQ process goals are to:

1. To develop skills of study design, data analysis, and study reporting.

2. To develop skills for effective team-based research.

3. To introduce residents to peer-review processes for publication.

4. Create opportunities for presentation and publication of scholarly research.

5. Meet accrediting body requirements for trainee research.

6. Continue to update a database of clinically relevant research questions.

**Objectives**

Upon completion of the Clin-IQ Process, residents will be able to perform the following:

1. Develop realistic and meaningful research questions for study.
2. Utilize Medical Reference Library consultants effectively to access the highest level of evidence relevant to any medical question.
3. Appraise the validity and strength of the literature selected.
4. Understand the basics of data extraction and analysis processes and procedures.
5. Summarize the results of a project by PowerPoint and Poster presentation for an audience of their peers, faculty mentors, and community clinicians.
6. Synthesize the literature in a well-written document.
7. Understand how to prepare an abstract or manuscript for publication.

Clin IQ Syllabus

**Course Director: Elizabeth Wickersham, MD**

**Assistant Course Director: Ann Chou, PhD**

**Course Coordinator: Jessica Brockhaus**

**Basic Information for Clin IQ:**

Clin-IQ is managed through the University’s D2L website: [learn.ouhsc.edu](file:///\\Mac\Home\Downloads\learn.ouhsc.edu). You will use your usual login name and password to access this site. You can also get to D2L by going to the MedHub site and accessing it through a link on this page.

This site will contain all of the information you need to know about this course and can be accessed at any time, of course. The course calendar, handbook, due dates, finished examples, grading rubric, PowerPoint slides or course handouts given during Clin IQ sessions, template for your posters, etc., are all going to be found here. If you think there needs to be something else added to this site, please don’t hesitate to ask!

Any changes you make to your Clin-IQ project and documentation MUST BE SUBMITTED through this site so we can ensure we have the most current information for your project as we are evaluating through the year.

Similarly, your reference papers need to be submitted through the Dropbox on D2L so they are easily accessible to your Clin-IQ course team as well as to each of your team members and mentors. Once they are submitted they will be added to your team file.

As you can see, any items needed for your Clin IQ project must be uploaded to this site so it is all kept in a centralized location.

You will manage your paper through Google Docs within this site. It is the resident team’s responsibility to keep the Google Doc up to date AT ALL TIMES. Google Docs will keep track of revisions, the reviewers’ questions, as well as the answers to those questions. This will be key to not losing a document or revisions or previous versions if needed. The course directors will access these documents from time to time to review and may comment on these documents. Additionally, keeping your project on Google Docs allows each person to see the most recent version so that it minimizes duplication of work. If this document is not current in D2L it is a waste of everyone’s time, so it will not be allowed.

Evaluation:

This is a pass/fail course and passing this course both years is necessary for completion of the residency requirements.

Clin-IQ projects will be evaluated per a grading rubric which will be posted on D2L. As this course evolves, we may find the need to revise some or all of the grading rubric so it is important to attend Clin-IQ sessions and check the D2L site frequently. The basic categories of the Grading Rubric are “Exceeds Expectation”, “Meets Expectation”, “Expectation not Met”. If the project is deemed to not meet expectation, then the team is at risk of failing the course.

In the event a team does not receive a passing grade, they will be notified in writing as soon as this has been determined. This notice is also cc’ed to the Residency Program Director for review by the Director as well as the Residency Division Committee. The team will be assigned a remediation project and faculty member as deemed appropriate by the Residency Division Committee. This may involve the team members being assigned separate projects to complete individually with separate faculty members. At this point the specific projects of the individuals from the remediating team will be determined as having passed or failed remediation satisfactorily by the Residency Director (and the Residency Division Committee as deemed necessary). The Clin-IQ Director team is no longer involved in the evaluation at that point.

**Mentors:**

Mentors are selected from a group of faculty, sports fellows, and adjunct faculty who volunteer to participate as mentors. In order to volunteer they are given a set of expectations for mentors and asked to sign this page line-by-line, and those that sign are put into a list of eligible mentors. Although many of the mentors are those with whom you are already familiar, there are some mentors that will be new faces and new opportunities for relationship-building. Please know that all of the mentors chosen want to help you succeed, as does your Clin-IQ Course Director team. Some mentors have different skills and each team is different thus each team’s experience will be inherently different from the other teams.

Please bear in mind that we are **all** here to help you. As challenges will inherently arise in any group project it is imperative to keep the lines of communication open and communicate early and often. You will find that the challenges patient care will present through your career will mirror this type of team work so learning to navigate this well now will serve you well for years to come. You are always welcome to visit with your Clin-IQ course directors and team if you have questions or are uncertain as to how to navigate any challenges that arise. We all need assistance to grow and learn and develop. This is as much of an opportunity for your mentors and course directors as it is for you so please help us learn how to help you better!

**Question Bank**

The questions for Clin-IQ are provided by OUFMC residents, faculty, and members of the Oklahoma Physicians Resource/ Research Network (OKPRN). They are ranked by the same group of people in order to provide a list of questions available to residents for their Clin IQ projects the ones that the family medicine community deems most relevant to their everyday practice as well as most relevant to the work of family medicine in general. The best questions come from people collecting questions throughout the year as they are working with patients in various care settings. Some people find it is easy to jot these on a phone note and email them later. Capturing it at the point when it arises is the best way to ensure you remember it!

How to Build a Clin-IQ

## **1: Choose a Question.**

The list of optional questions will be distributed for the resident teams to select their top three question choices in order of importance. You are free to choose any of the questions on the list, however, if you or your teammate wrote a question (or questions) on the list of options, your team will have first priority for those questions.

## **2: Determine if the Question is in PICO Format; Rewrite it if it is Not.**

**PICO** is an acronym for the components of a well-built clinical question.

**P**=patient, always your primary focus.

**I**=intervention, what are you proposing to do (not do, e.g., watchful waiting).

**C**=compared to what? Some questions (e.g., causation) won’t have a comparison.

**O**=outcome, what do you want to happen.

## 

## **3: Search the Medical Literature**

**Consulting with a Medical Reference Librarian**: Consulting with a medical reference librarian to assist with your literature search is most likely to yield the highest level of **current** evidence with the least amount of irrelevant materials. When you consult with a librarian, here are some tips to make that interaction more productive:

* Using the “Ask a Librarian” button found on the library’s website, fill out the form and submit it to the Librarians. They usually have very quick turnaround (within 48h) and will likely send you back a LONG list of potential articles for your question. Look through these potential titles and then note the ones that may be of interest. Read the abstracts on those papers. When you have narrowed your list to articles that truly or potentially seem relevant to your question, make an appointment to sit down with a librarian to review these. (There is an online form to request a meeting on the library website as well.) They will use the list that you have narrowed to further refine your search.
* Conduct the consultation face-to-face. Medical reference librarians are trained in “reference interviews” and will ask you questions about your topic that you may not have considered. Medical librarians will be able to readily locate and obtain relevant review articles and evidence articles for your project. They are used to helping clinicians answer clinical questions through their literature searching skills. **Please thank them for their assistance and their skills when they help your team!**
* In the event you feel that your question needs modification please discuss this with your mentor first. They have been assigned, as much as possible, to projects in which they expressed interest or knowledge. If your team and your mentor agree that modifying your question is appropriate, it is really important to notify your Clin-IQ course director, Dr. Wickersham, IN WRITING, of this via email. Please put Clin-IQ question in the subject line and mark the email as important. If you have not received a reply within 48h please contact Jessica Brockhaus.

## **4: Develop Search Terms, Limits and Inclusion/Exclusion Criteria**

Based on your PICO-formatted question and your literature search findings with the librarian.

**PICO Literature Search Strategy Example\***

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **P**atient(s) |  | **I**ntervention |  | **C**omparison |  | **O**utcomes |
| Infant or preschool child ; chronic otitis media | ***AND*** | myringotomy tubes | ***AND*** | episodic or prophylactic antibiotics | ***AND*** | Incidence or severity or side effects |

\*Adapted from Kerr J. Abdominal Imaging 33 (Sept): 31-33, 2008)

**Search Terms:**

These will be necessary for the initial paragraph of your paper so it is important to keep track of this information.

**Limits:** (e.g., Human, English, Infants or Pre-School Children review, RCT)

These will be necessary for the initial paragraph of your paper so it is important to keep track of this information.

**Inclusion and Exclusion Criteria:** A brief discussion of which articles you chose to **include**, e.g., all clinical trials in humans that compared tubes with other treatments or with watchful waiting that were published in the past 6 years and included an *n* (number of subjects) of XX or greater) and articles you chose to **exclude** (children over age 5, adolescents, adults).

(See Clin-IQ Examples beginning on page 20)

These will be necessary for the initial paragraph of your paper so it is important to keep track of this information.

**5: At this point you should have a list of potentially relevant articles written within the past 5 years including Review Articles and Clinical or Experimental Articles.**

As above, your team needs to review/scan these articles by title first to see if they are specifically relatable to your Clin-IQ. This will help you narrow the list a little or a lot more. Remember, if you find one particularly relevant article you should pull that article and read it carefully and then review the references from that article because this may very well be a source of even more relevant articles.

You should narrow your list down to about 6 articles (of which at least two should be each type listed above) and then read through those articles carefully. It is best to summarize the basics of these articles as a kind of outline so you have a basic reference for each paper as you are working. Notecards may be helpful or you may find something else that is appropriately effective.

**6:** **Upload your reference documents to D2L or send to Jessica Brockhaus (for the year 2016-2017).**

**7:** **Schedule your meeting with your mentor to review your papers and plan for your project.**

Your librarian, your Clin-IQ directors, and your mentors are all available to you to help determine which of your studies qualifies as the highest level of evidence.

***\*Please note:*** Not all questions will be appropriate for RCT trial design. For instance, if you want to study what a pregnant woman’s cocaine use does to a newborn, that is a question that will NEVER be approved for an RCT because no one will allow you to randomize pregnant women to use cocaine during pregnancy. That is unethical. The highest level of evidence article able to be used for this is likely a retrospective cohort study. If you have questions about this, please ask!!

## **8: Write a first draft of your paper:**

## **the summary of issues (word count = 200-300)**

Should include how prevalence and clinical significance relate back to your question. You have several example to work from (see published Clin-IQ Examples beginning on page 20).

* + - 1. **the summary of evidence (word count = 500-700)**

|  |  |
| --- | --- |
| * number of patients or papers, if meta-analysis or systematic review | * outcome(s) of interest (morbidity, mortality, quality of life, etc.) |
| * type of studies (include data on a table for clarity) | * weaknesses or conflicts * cite references |
| * statistical significance. |  |
| * intervention of interest |  |

* + - 1. **Conclusion (word count = 50-100)**
* Conclusions (1-2 sentences), to include:
  + Summary of issue (relevance) linked to
  + Summary of evidence, linked to
  + The answer and how you would change your practice based on what you have learned.

**9: Bring your completed rough draft with your articles to the PEER REVIEW session. This will be helpful feedback to rewrite your rough draft and begin to finalize it.**

**10: Determine level of evidence of your body of literature: WE WILL DISCUSS THIS IN CLASS SO STAY TUNED**

**11: Answer the Question.**

**Answer Options:** “Yes”, “No”, or, “Inconclusive”. You may want to add1-2 sentences if that seems to help clarify your answer.

**12: Add an ORIGINAL table, figure, chart or graph**

* The purpose of adding a Table, Figure, Chart, or other graphic to the paper is to show in a visual format what you have learned. I like to put it as “drawing a picture to illustrate the story you just wrote”.
* It should be a summary of the cumulative data that you have gathered for your paper, rather than a restatement of one of the paper’s data. You are illustrating YOUR story, not someone else’s story.
* Place a citation within the text indicating the context of the graphical material (e.g., Figure 1, Table 2).

**13: Add Reference List:** You must cite all the materials (books, journal articles, website, etc.) that you used to answer your question. The minimum required number is: 2 systematic review or meta-analysis articles and 2 clinical trial design articles.

1. Review article #1
2. Review article #2 (optional)
3. Clinical Trial Design article #1
4. Clinical Trial Design article #2

**14: Write a ~250 Word Abstract.** The Abstract should be written last but placed before the Summary of Issues. Abstracts are required for a publishable document.

**A word about plagiarism:** Plagiarism and copyright infringement occur when an author extracts large portions of materials from a published document. Tables, figures, charts and graphs of any kind must be significantly altered or, preferably, created from data within a published study. Brief material (generally a sentence or two, less than a paragraph) may be quoted provided adequate citations are provided for the sources.

A consult with a medical librarian can help you be re-assured that you have not exceeded copyright limitations or plagiarized material.

**NOTE:** Your paper will be automatically scanned by “Turn it In” (plagiarism software) when you make changes to your Google Doc.

**15: Complete Clin-IQ check list**

Have you:

* Answered the question?
* Summarized the information in each article using the Evidence Table?
* Met regularly and at appropriate intervals with your mentor?
* Shared the work equally with your partner as per your team norms you chose at the beginning of the year? (or has one of you taken advantage of the other?)
* Cited sources properly as shown in this Workbook in the Format Guidelines (pages 18-20) and Clin-IQ Examples (page 31-45)?
* Designed your table/figure/graph, etc. to accurately reflect the information you have gathered during your Clin IQ project?
* Noted in the text where your table/figure/graph, etc. where the table information is discussed (Table 1, Figure 2, etc.)?
* Converted your citations from the temporary format (name, yr) to the proper format (superscript #’s in order of appearance in the paper w ref list in the corresponding order)?
* Completed your work on time?
* Presented your first draft for Peer Review so that it has been reviewed by at least one peer?
* Completed a Peer Review for at least one other team’s paper in a manner that is thoughtful, reflective, and constructive, honest, and helpful?
* Addressed all comments and suggestions in your Google Doc, including those from each other, your mentor(s), and your Clin IQ team?
* Requested a review from additional faculty or peers as suggested by your mentor?
* Revised your draft until your mentor and team are satisfied that you have produced a high quality paper?
* Addressed any plagiarism concerns?
* Checked with Jessica Brockhaus if you need help with the writing portion of this? A portion of the items we evaluate on the papers is whether or not they are well-written and have a logical flow that is easily understood.
* Stood to present your poster in a confident, clear manner, projecting your voice so that the entire room can hear you?
* Both (team members) participated equally in the presentation in a respectful, collaborative manner?
* Set up your poster for the OAFP scientific assembly using the template we provided you on the D2L Clin IQ 2016-2017 website?

**Clin IQ Format Guidelines**

|  |  |
| --- | --- |
| **General Format** |  |
| Double spaced, 1” margins, 12 pt Times New Roman or Arial font. |  |
| Indent the first line of each paragraph. Do not use extra blank lines between paragraphs. |  |
| **Citing Abbreviations** | **Examples** |
| The first time you use an abbreviation you must write the complete phrase first and follow the phrase with the abbreviation in parentheses. From then on, use only the abbreviation | The Residency Review Committee **(RRC)** is the entity that accredits residency training programs. The **RRC** requires program to conduct faculty/residency collaborative research for accreditation. |
| **Numbers in Text** | **Examples** |
| Spell out numbers one through nine.  Except percents **(9%)**  Medication dosages **(15 mg BID)**  Laboratory values **(162.4 ml/min)**  Dates **(June 30, 2014)**  Time frame (**39 weeks, 3 years**)  Ages (individuals **13 yrs** or older).  More than one number in a sentence  *\*this is technically correct however, there are times that you will see numerals at the beginning of a sentence in a scientific paper. Written numbers are harder to find when scanning a paper for numbers so this is often the compensatory measure chosen.* | In this study, **nine** children aged **4** months to **2** years received ear tubes.  In this study, the **first 8** children received ear tubes and the **second 8** were placed on Bactrim for **2 weeks**. |

|  |  |
| --- | --- |
| **Articles from the Medical Literature** | **Examples** |
| * **Recent** review article(s) on which to base your summary of issues. * **Recent** evidence articles on which to base your Summary of Evidence and your answer. * **All articles should be from medical journals published in within the past 5 years.** Exceptions to this must be approved through Dr. Wickersham or Dr. Chou before being allowed. | **Review article:**  1. Wilson R, Gazzala J, House J. Aspirin in primary and secondary prevention in elderly adults revisited. [**Review**] South Med J. 105(2):82-82, 2012.    **Evidence article:**  2. Berger JS, Krantz MJ, Kittelson JM et al. Aspirin for the prevention of cardiovascular events in patients with peripheral artery disease: **a meta-analysis of randomized trials**. JAMA 301(18): 1909-1919, 2009. |
| If you cite, paraphrase, mention or quote directly from a published article, book, website, etc. you **must cite the material** in the text (and include the citation information in the Reference List).  **Failure to do so constitutes plagiarism and copyright infringement.**  **\*Please note that the citations are referenced by numbers that are superscripted and immediately follow the period for the cited sentence.**  ***Tip: Do not try to label your references by numbers until you are writing your final draft. Until then it is easier to put the first author’s name and date of the publication in parentheses after the line of text it references in the event you rearrange your text or add or delete references.*** | Use of combined oral contraceptives increases the risk of venous thrombosis two-to-six fold.**1,2** Both the estrogen and progestogen of combined oral contraceptives contribute to the increased thrombotic risk.**1** On top of this, smoking doubles the risk of venous thrombosis.**2**It has been established that women over age 35 who smoke should not use combined oral contraceptives due to the risk for cardiovascular disease.**3**  ***Written as a working document per tip:*** Use of combined oral contraceptives increases the risk of venous thrombosis two-to-six fold. (Jones 2015) (Wright 2013) Both the estrogen and progestogen of combined oral contraceptives contribute to the increased thrombotic risk. (Jones 2015) |

|  |  |
| --- | --- |
| **Reference Lists** | **Examples** |
| Reference lists are placed at the end of the paper.  References are listed **in the order in which they are cited in the text of your article.**  **Remember: Reference 1 is always 1 no matter how many times it is cited in the text.** | Both the estrogen and progestogen of combined oral contraceptives contribute to the increased thrombotic risk.**1**  … in these 56 women when APC resistance was re-tested 3 months later (mean baseline 2.75 vs. mean three months later 2.47; difference -0.29; 95% CI -0.04 to -0.53).**1** |
| **Complete Reference Examples (based on the Uniform Requirements for Medical Manuscripts)** | |
| **Journal Article Example** | 1. Mold JW, Holtzclaw BJ, McCarthy LH. Night sweats: a systematic review of the literature. J Am Board Fam Med 25(6): 2012:878-893. |
| **Book Chapter Example** | 2. Lim LL, Foldvary-Schaeger N. Sleep Disorders. Ch. 10 In: Carey WD, ed. Current Clinical Medicine, 2nd ed. New York: Elsevier (Saunders); 2010:914-921. |
| **Website Example** | 3. Felland LE, Lechner AE, Sommers A. Improving access to specialty care for Medicaid patients: policy issues and options. A Commonwealth Fund Report. Center for Studying Health System Change, June 2013. (Accessed June 27, 2013, at [www.hschange.com](http://www.hschange.com/)). |
| Sample completed Clin-IQs, which meet the style, formatting, and publication requirements, can be found beginning on page 31. | |

**CLIN-IQ EVALUATION**

The Clin-IQ Paper is evaluated by your mentor(s) as well as Drs. Wickersham and Chou.

Each team will submit a final paper that synthesizes evidence that support a response to the research question. The Clin-IQ Paper should include a summary of issues, summary of evidence, conclusions, and relevant figures and tables.

The Clin-IQ Paper should be a scholarly paper, of high quality and professionally prepared (by the team). That is, it should be clearly organized, have a neat and orderly appearance, and be devoid of grammatical and spelling errors. The Paper’s format is double-spaced with 1-inch margins in 12-point Arial or Times Roman font and should not greatly exceed 1000 words in length, excluding appendices and references. References should be properly formatted, single spaced, using a consistent format in the AMA Style. You are welcome to use a reference software, such as EndNote, to organize and format you references, but it is not required.

CLIN-IQ EVALUATION RUBIC

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Written Manuscript** | | | | | | |
|  | **Excellent** | **Satisfactory** | **Marginally Satisfactory** | **Not Passing** | **Comments** |
| **Quality of writing** | Clear; concise; free of  punctuation, grammatical,  syntax, and content errors | Some ambiguity; some  wordiness; some  punctuation, grammatical,  syntax, and content errors | Significant ambiguity;  significant wordiness; many  punctuation, grammatical,  syntax, and content errors | Writing very difficult to  understand; very wordy;  contains numerous  punctuation, grammatical,  syntax, and content errors |  |
| **Explanation of**  **research question** | Clear and concise; supported  response to question with  evidence | Somewhat vague or wordy  on the response to question  supported by evidence | Required clarification;  merely restating the  question | Very difficult to understand;  explanation unclear |  |
| **Summary of issues** | Clear and concise; a  comprehensive discussion  identifying issues of the  research question | Somewhat vague; an  adequate discussion  identifying issues of the  research question | Required clarification;  summary is confusing | Very difficult to understand;  summary is difficult to follow |  |
| **Summary of**  **evidence** | Clear and concise; a  comprehensive synthesis of  evidence | Somewhat vague; an  adequate synthesis of  evidence | Required clarification;  summary is confusing | Very difficult to understand;  summary is difficult to follow |  |
| **Conclusions** | Clear and concise; a thoughtful  conclusion of the paper | Somewhat vague; an  adequate conclusion of the  paper | Required clarification;  conclusion is confusing | Very difficult to understand;  conclusion is difficult to  follow |  |
| **Tables and figures** | Clear presentation of tables and  figures; easy to understand;  tables and figures consistently  referenced in text | Somewhat vague; required  some explanation for the  tables and figures; tables  and figures not consistently  referenced in the text | Vague; Required extensive  explanation for the tables  and figures; not referenced  in the text at all | Very difficult to decipher;  not referenced in the text at  all |  |
| **References** | Clear presentation of  references; properly formatted  and listed | References properly  formatted and listed with  some errors | References not properly  formatted or listed; multiple  errors | Reference not listed  included at all |  |

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| **Presentation and Poster** | | | | | |
|  | **Excellent** | **Satisfactory** | **Marginally Satisfactory** | **Not Passing** | **Comments** | |
| **Professionalism** | Extremely professional: tone of voice, dress, demeanor, timeliness | Mostly professional with some errors | Mostly unprofessional | Not professional: informal, anxious or inappropriate demeanor, not timely |  | |
| **Persuasiveness** | Very persuasive; made an effective presentation of the research question and evidence | Somewhat persuasive; doubts remain how effectively evidence supported response to the research question | Minimally persuasive; listener left with doubts about how evidence supported response to the research question | Not persuasive at all; merely informative; did not effectively show how evidence supported research question |  | |
| **Ability to Answer Questions** | Answered every question with alacrity and depth; not flustered; needed no mentor or other guidance | Answered most questions; got somewhat flustered; very little mentor or other guidance needed | Had troubling answering questions; fairly flustered; mentor or other’s guidance needed but had trouble taking mentor or other’s guidance | Could answer almost no questions; quite flustered; mentor or other’s guidance needed but unable to take mentor or other’s guidance |  | |
| **Clarity and Efficiency** | Presentation very clear; had good roadmap; kept presentation within time limits and distributed time effectively | Presentation a little scattered; lost control of time somewhat; mostly effective use and distribution of time | Presentation fairly scattered; time use and distribution generally ineffective | Presentation very scattered; time use and distribution ineffective |  | |
| **Visual Aids** | Visual aids relevant; easy to read and use; appropriately referenced | Visual aids mostly relevant; aids could improve on readability or use; aids not always appropriately referenced | Ambiguity about why some visual aids included; visual aids confusing or hard to read; aids rarely appropriately referenced | Vast over-inclusion or under-inclusion of relevant aids; used visual aids as crutch (e.g., reading slides verbatim); visual aids difficult to understand |  | |
| **Poster** | Poster clear and easy to read | Poster good; could make improvements to ease reader | Poster adequate but lack information | Poster inadequate; lacking most information |  | |

**Different Study Types**

Evidence Pyramid

**Cohort Studies**

**RCTs**

**Case Control/Other Studies**

**Systematic Reviews and Meta-analyses**

1. Systematic Review: Level 1 Evidence
   1. A comprehensive survey of a topic in which all the primary studies of the highest evidence (e.g., randomized controlled trials, prospective cohort studies; see below) are identified, appraised and summarized using explicit inclusion and exclusion criteria.
   2. Results should be reproducible
2. Meta-analysis: Level 1 Evidence
   1. Similar to a systematic review in that a comprehensive search of the topic is conducted.
   2. If the results of the review of all included studies are similar enough statistically, the results are combined and analyzed as if they were one study
   3. Results should be reproducible.

Systematic Review

Study 4

Study 1

Study 3

Study 2

Combined Results

Meta-analysis

1. Randomized Controlled Trial (RCT):
   1. 2 groups: 1 treatment group and 1 control group. Treatment group received treatment under investigation. Control group receives either no treatment (placebo) or gold standard treatment.
   2. Patients are randomly assigned to each group.
   3. Best type of study to answer questions about therapy.
   4. Sometimes there can be 3 or even 4 groups (called arms) depending on the study question. Example of a 4-arm RCT: Allergy treatment.
      1. Claritin alone
      2. Flonase alone
      3. Claritin + Flonase
      4. Placebo
2. Cohort Study:
   1. A study in which patients who presently have a condition and/or receive a particular treatment are observed over time and compared with another group who do not have the condition being studied.
   2. Example:

Smokers

Non-Smokers

Smokers

Non-Smokers

Compare outcomes

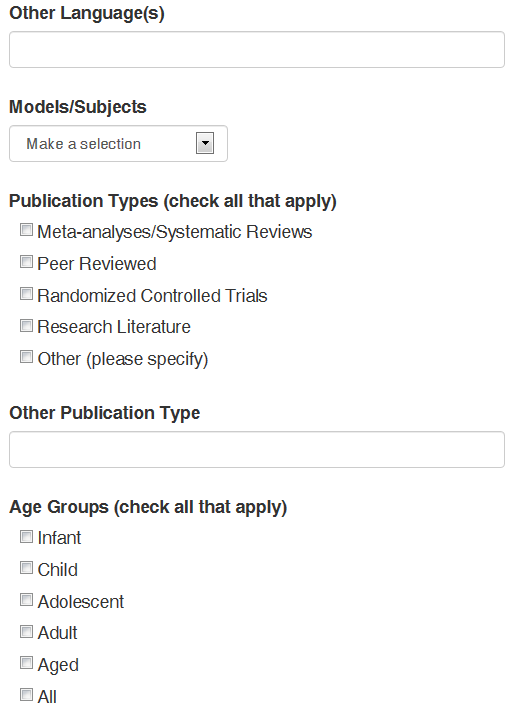
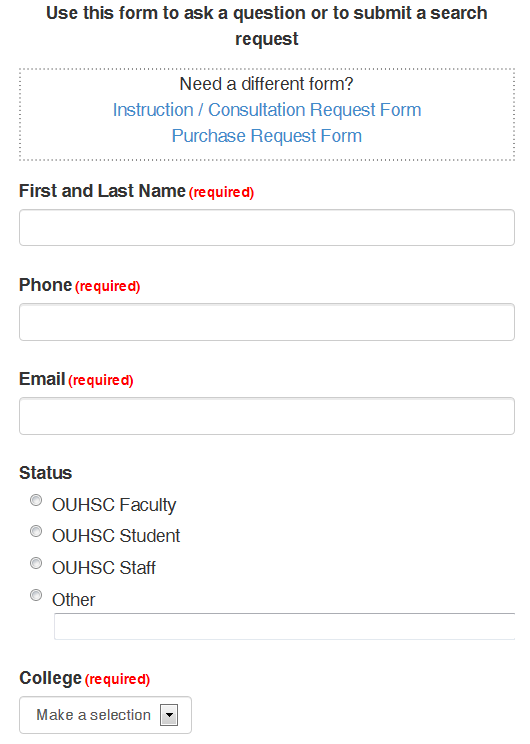
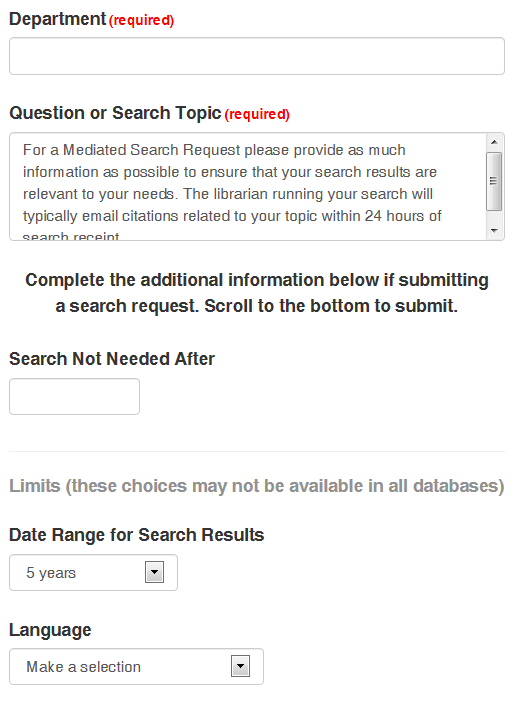
Follow over time

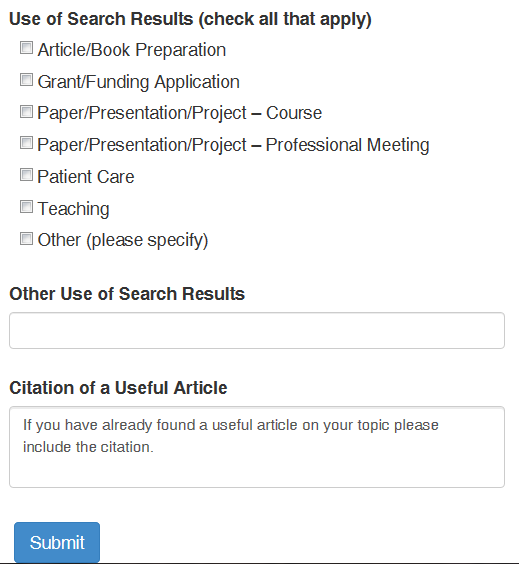
Follow over time

Examples adapted from SUNY Downstate Medical Center (<http://library.downstate.edu/EBM2>)



<http://library.ouhsc.edu/friendly.php?action=82&s=index>

**Use this form to ask a question or to submit a search request**

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|  | | **Peer Review Form for Clin IQ** | | | | | | | |
| **Reviewer:** | |  | | | | | | | |
| **Date:** | |  | | | | | | |
| **Authors:** | |  | | | | | | | |
|  | |
| **General Instructions to Reviewers**   * Objective is to help authors improve the manuscript. * Suggest how to make the manuscript more clear, concise and relevant. * Identify possible areas of confusion for the reader and make specific suggestions. * Verify that at least one reference is accurately interpreted. * Identify any glaring grammatical or format problems, in a supportive manner. * Sprinkle PRAISE along with recommendations for change. | | | | | | | | | |
| **Answer:** | | | | | | | | | |
| **Does the answer accurately represent the evidence given?** *(Likely will need to wait to complete this until the end.)*  **[ ] Needs improvement [ ] Yes** | | | | | | | | | |
| **Reviewers Comments.** | | | | | | | | | |
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| **Inclusion and Exclusion Criteria:** | | | | | | |  | | |
| **Does it appear that these have been completed appropriately?**  **[ ] Needs improvement [ ] Yes** | | | | | | | | | |
| **Reviewers Comments:** | | | | | | | | | |
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| **Summary of Issues:** | | | | |  | | | | |
| *Clinical significance, prevalence and relevance based on recent review article(s).*  **Is the writing clear and logical?**  **[ ] Needs improvement [ ] Ready to publish** | | | | | | | | | |
| **Is the length appropriate (200-300 words)?**  **[ ] Needs improvement [ ] Ready to publish** | | | | | | | | | |
| **Reviewers Comments:** | | | | | | | | | |
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| **Summary of Evidence:** | | | | | |  | | | |
| *Describes studies, outcomes, interventions. A figure or table will be added. Evidence articles should be cited.*  **Is the writing clear and logical?**  **[ ] Needs improvement [ ] Ready to publish** | | | | | | | | | |
| **Is the length appropriate (500-700 words)?**  **[ ] Needs improvement [ ] Ready to publish** | | | | | | | | | |
| **Review *at least one evidence article* and comment:**   * **Is the information appropriated represented in the text?**   **[ ] Needs improvement [ ] Yes** | | | | | | | | | |
| * **Have the statistics been accurately represented and explained?**   **[ ] Needs improvement [ ] Yes** | | | | | | | | | |
| * **If present, do the figures or tables accurately present the data and contribute to your understanding of the material?**   **[ ] Needs improvement [ ] Yes** | | | | | | | | | |
| **Reviewers Comments:** | | | | | | | | | |
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| **Conclusion:** | | | |  | | | | | |
| *Conclusion should be clinically relevant and summarize evidence.* | | | | | | | | | |
| **Is the length appropriate (50-100 words)?**  **[ ] Needs improvement [ ] Ready to publish** | | | | | | | | | |
| **Does the conclusion state clearly how the answer will impact practice?**  **[ ] Needs improvement [ ] Yes** | | | | | | | | | |
| **Reviewers Comments:** | | | | | | | | | |
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| **Reference List:** | | | | | | | |  | |
| **Are all references cited in the body of the report according to the instructions in the workbook (Name and date at this point)?**  **[ ] Needs improvement [ ] Yes** | | | | | | | | | |
| **Are all of the papers cited in the body of the paper listed in the Reference List and distinguishable by the name and date citation in the paper?**  **[ ] Needs improvement [ ] Yes** | | | | | | | | | |
| **Reviewers Comments:** | | | | | | | | | |
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| **Additional comments to the authors:** | | | | | | | | | |
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**Sample of Completed Clin-IQ**

Clinical Question: In adults with acute plantar fasciitis whose symptoms have not been relieved with the conventional regimen of NSAIDS, stretching and lifestyle modification, do the addition of orthotics (prefabricated or custom fitted) reduce pain and improve function compared with other non-surgical treatments (manipulative chiropractic, physical therapy and/or heel steroid injections)?

Authors: Rebecca D. Lewis, DO\* (OGME-2), Paul Wright, MD\* and Laine H. McCarthy, MLIS\*\*

\*St. Anthony Family Medicine Residency, Oklahoma City, OK; \*\*University of Oklahoma Health Sciences Center, Oklahoma Clinical & Translational Sciences Institute.

Answer: Yes.

Studies have shown that orthotics, both prefabricated and custom fitted, reduce pain and improve function in adults with acute plantar fasciitis with few risks or side effects. Used alone or in addition to conventional therapy (NSAIDs, stretching, lifestyle modification), orthotics are effective and well tolerated by patients for short-term pain relief and improved function. Prefabricated orthotics are less costly and provide similar relief to more expensive custom orthotics.

Level of Evidence of the Answer: A

Search Terms:

Plantar fasciitis, heel pain, treatment, orthotics,

Limits: Adult, human, English, Review, Randomized-Control Trials, Systematic Reviews, adults age 18 or more, publication dates 2004 to present.

Date Search was Conducted:

January 16, 2014; updated January 20, 2015

Inclusion and Exclusions Criteria:

Inclusion Criteria:

Recent published systematic reviews, randomized controlled, meta-analyses; adults with confirmed acute or recent diagnosis of plantar fasciitis.

Exclusion Criteria:

Studies older than 10 years, children, adolescents less than 18 years of age, chronic or recalcitrant plantar fasciitis.

Acknowledgment: L.H.M. was supported by Oklahoma Shared Clinical & Translational Resources, funded by grant NIGMS U54GM104938, National Institute of General Medical Sciences, National Institutes of Health.

Abstract: Plantar fasciitis is a common painful foot condition that affect most older adults and results in over 1 million office visits each year in the United States. The condition is described as stabbing or burning heel pain that is worse in the morning or after periods of rest. Conventional wisdom is to treat plantar fasciitis with NSAIDS, stretching and lifestyle modification. Studies demonstrated adding orthotics, night splints, manipulation chiropractic, physical therapy, and/or corticosteroid injections offer improved symptom relief when conventional treatment options are inadequate for reducing pain and improving function. Many studies indicate that orthotics and corticosteroid injections are the best treatments for plantar fasciitis.

Summary of the Issues:

Plantar fasciitis is a common painful foot condition that is usually described as stabbing or burning anteromedial heel pain that is worse in the mornings and after periods of rest. Plantar fasciitis contributes to 1 million American outpatient office visits annually; two-thirds of these patients seek treatment for this often debilitating condition from their family physician.1 Plantar fasciitis is most often found in middle aged to older adults with an estimated prevalence of 7% in adults over the age of 65. In adults under age 65, plantar fasciitis is more prevalent among individuals who are obese, lead sedentary lifestyles, runners, in the military and those with occupations requiring prolonged standing. While unknown, the suggested pathogenesis of plantar fasciitis is repetitive micro-trauma and inflammation of the plantar fascia at the calcaneal insertion.2 The initial clinical diagnosis is based on history, risk factors and physical exam, not on radiographic findings; however, imaging may be helpful in recalcitrant plantar fasciitis.1-2

The high prevalence of plantar fasciitis and activity-limiting pain make understanding the diagnosis of and current evidence-based recommendations for treatment highly important for the practicing clinician. Many studies report multiple therapeutic approaches making it difficult to determine which single initial therapy might be the “best.”1 While little evidence supports it, conventional wisdom is to treat plantar fasciitis with NSAIDs, stretching and lifestyle modification. This review will focus on current research for treating acute plantar fasciitis if conventional options have not provided symptom relief. Treatment of recalcitrant plantar fasciitis will not be discussed in this review.

Summary of the Evidence:

A systematic review by Uden et al. published in 2011 compared six randomized control trials (RCTs) to assess the effectiveness and safety of custom foot orthoses (CFO) and corticosteroid injections (CSI) for the treatment of adults with known plantar fasciitis.3 Of the six RCTs that met the criteria for this systematic review, four compared the use of CFOs to other therapies while the remaining two articles focused on the effectiveness and safety of CSIs. (See Table.)

In a 3-arm RCT conducted by Roos et al., 43 participants were randomly assigned to receive CFOs, anterior night splints, or CFOs together with anterior night splints. Pain scores were assessed using the Foot and Ankle Outcome Score at 6, 12, 26, and 52 weeks after intervention. The study concluded that use of anterior night splints and foot orthotics were both effective in providing short term pain relief and improved foot function.3

In another 3-arm RCT, Landorf et al. randomly assigned 136 participants to receive prefabricated foot orthotics, CFOs, or a placebo “sham” orthotic. Pain and function level of the participants were assessed with the Foot Health Status Questionnaire at 3 and 12 months after treatment. At 3 months, this study showed that both prefabricated orthotics and CFOs provided a significant improvement in function but no significant improvement in pain over the placebo “sham” orthotics.3,4 A 2-arm RCT by Baldassin et al. used the Visual Analog Score (VAS) and the Foot Function Index (FFI) to compare prefabricated orthotics and CFOs in 142 individuals. Pain was assessed at baseline, 4 weeks, and 8 weeks. Results demonstrated that use of low-cost prefabricated orthotics in the treatment of plantar fasciitis had similar and significant outcomes in improving function and providing pain relief compared to more expensive CFOs.3

Uden et al. evaluated two studies investigating the effectiveness of CSIs.3 Porter and Shadbolt randomized 125 participants into three groups: CSI with stretching of the gastrocnemius, soleus and plantar fascia, electrohydraulic shock wave therapy (ESWT) with stretching, and stretching alone. Pain was assessed at baseline, 3 months and 12 months with significant reduction in pain reported at 12 months compared to stretching alone. In the second study of CSI, conducted by Lee and Ahmad, 64 patients were randomized to receive either an autologous blood intralesional injection (ABII, control group) or CSI treatment. Pain was assessed at baseline, 6 weeks, 3 months and 6 months. The CSI group showed significant pain reduction compared to the ABII group at 3 months but no significant differences at 6 months. Participants in both studies reported injection site pain lasting up to one week that required use of ice and analgesic.3

Uden et al. also evaluated an RCT by Dimou et al. that compared symptom relief from CFOs compared to manipulative therapy by a chiropractor. In this study, 20 participants were assigned to wear a CFO for 8 weeks or receive a total of 9 chiropractic manipulation treatments of the foot and ankle, 2 per week for 4 weeks and again at the 8 week follow-up visit. Pain was assessed subjectively with a pain rating scale and objectively with algometry at regular internals for all groups and at the 8 week follow-up. While both groups reported pain reduction, chiropractic manipulation was found to be significantly superior to CFOs for pain relief.3

A 2011 systematic review reviewed manipulative therapy for lower extremity conditions. Two RCTs on use of manipulative therapy by chiropractors for plantar fasciitis were included: the study described above by Dimou et al. and a study by Cleland et al. In the Cleland study, participants were assigned to receive either electrophysical agents (EPA) and stretching exercises or 6 manipulative therapy treatments over 4 weeks. The treatment used depended on the tender points and restrictions that were found on the 60 study participants. At 4 weeks and 6 months, the Foot and Ankle Ability Measure was used to assess pain and function. Significant improvement was seen in the manipulation group at 4 weeks but no significant difference at 6 months. The review concluded that chiropractic manipulative therapy is effective for short term pain relief of plantar fasciitis.5

Conclusion:

Results from this literature review indicate that patients with known acute symptomatic plantar fasciitis can be treated with a variety of non-surgical modalities that improve symptoms in the short term. Studies demonstrated adding orthotics, night splints, manipulation chiropractic, physical therapy, and/or corticosteroid injections offer improved symptom relief when conventional treatment options (NSAIDs, stretching and lifestyle change) are inadequate for reducing pain and improving function. Many studies indicate that orthotics and corticosteroid injections are the best treatments for plantar fasciitis. Orthotics, customized or prefabricated, have been shown to improve pain and function within 1 to 3 months with little to no risk. A recent study indicated that patients were compliant with both prefabricated and custom orthotics and that prefabricated orthotics were cost-effective.6 Current evidence suggests that the addition of orthotics to the treatment regimen for non-recalcitrant plantar fasciitis either alone or in conjunction stretching if conventional therapy fails to bring symptom relief. Manipulative therapy might also be considered.

References:

1. Goff J, Crawford R. Diagnosis and treatment of plantar fasciitis. *American Family Physician.* 2011, 84(6):676-82.
2. Cutts S, Obi N, Pasapula C, Chan W. Plantar fasciitis. *Annals of the Royal College of Surgeons of England,* 2012, 94: 539-42.
3. Uden H, Boesch E, Kumar S. Plantar fasciitis – to jab or to support? A systematic review of the current best evidence. *Journal of Multidisciplinary Healthcare.* 2011, 4:155-64.
4. Landorf KB, Menz HB. Plantar heel pain and fasciitis. *Clinical Evidence.* 2008, 2: 1111.
5. Brantingham JW, Bonnefin D, Perle SM, et al. Manipulative therapy for lower extremity conditions: update of a literature review. *Journal of Manipulative and Physiological Therapeutics.* 2012, 35:127-66.
6. Ring K, Otter S. Clinical efficacy and cost-effectiveness of bespoke and prefabricated foot orthoses for plantar heal pain: a prospective cohort study. *Musculoskeletal Care*. 2014, 12:1-10, 2014.

Table. Comparison of Non-Surgical Treatment Modalities to Provide Pain Relief and Improved Function for Patients with Non-recalcitrant Plantar Fasciitis

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Study**  **Investigators** | **Study Type** | **Study Size**  **(n)** | **Treatment Modalities** | **Outcomes** |
| Roos et al.3 | 3-arm RCT | 43 | CFO, night splints or CFO with night splints | Pain relief and improved function reported for all groups with significantly reduced pain at 52 weeks for the combined group. |
| Landorf et al.3,4 | 3-arm RCT | 136 | Prefabricated orthotic, CFO or placebo “sham” orthotic. | Both prefabricated orthotics and CFOs significantly improved function at 3 mo. compared to placebo. No significant improvement in pain compared to placebo. |
| Baldassin et al.3 | 3-arm RCT | 142 | Prefabricated orthotic or CFO | Pain relief and improved function was similar for both study groups at 8 weeks. |
| Porter and Shadbolt3 | 3-arm RCT | 125 | CSI with stretching, ESWT with stretching, and stretching alone.\* | Both CSI + stretching and ESWT + stretching provided superior pain relief at 12 mo. compared to stretching alone. |
| Lee and Ahmad3 | 2-arm RCT | 64 | CSI or ABII. site pain for up to 7 days caused by CSI | CSI provided superior pain relief to ABII at 3 mo. but the differences were not significant at 6 mo.. |
| Dimou et al.3,5 | 2-arm RCT | 40 | Manipulative chiropractic treatment or CFO | Manipulative chiropractic treatment significantly superior for reducing pain at 8 wk. compared to CFO. |
| Cleland5 | 2-arm RCT | 60 | Manipulative chiropractic treatment or EPA and exercise | Manipulative chiropractic therapy significantly reduced pain at 4 wk. compared with EPA and exercise. No significant differences at 6 mo. |

\*Participants who did not want either CSI or ESWT were re-assigned to stretching alone.

**Examples of Published Clin-IQ**



