For this quarter's FPIN report, I would like to focus on the PURLs Journal Club (JC). PURLs JC is a series of "canned" journal clubs based on PURLs articles (Priority Updates from the Research Literature) published monthly in the JFP. Journal Club can be an effective way to teach EBM, and FPIN has simplified the process by creating a curriculum of monthly topics to present in a journal club format (see List of Journal Club Topics on page 3). The curriculum includes the published PURLs article, links to the original article, a worksheet for assessing the original article, speaker’s notes, and instructions (see Figure on page 2). To access to this material you need to be able to login to the FPIN Institute (https://university.learnlive.com/fpininstitute). To obtain a FPIN Institute login, please see the quick reference guide at the end of this report. Detailed instructions for running the Journal club are also at the end of this report, and are available on the FPIN Institute.

On Friday January 24, 2014, we conducted "mock" journal clubs with the UW FMRN faculty development fellows to demonstrate to them how easy it is to run a PURLs Journal Club. The fellows organized into two groups, each with a leader/facilitator. Two days prior to the session the fellows selected an article to read, and on Thursday January 23 we gave them 45 min. to read and critique the articles using the FPIN PURLs JC worksheet (sample included at the end of this report).

On Friday morning, the fellows convened in their respective groups and spent 30 min. discussing the articles. One of the fellows for each group acted as the leader/facilitator. The leader used the included PURLs JC speaker’s notes to guide the discussion (sample included at the end of this report). We then debriefed both groups together for about 15 min. The general consensus from the fellows was that this was useful and they felt they could easily take this back to their own respective programs. They felt confident they could run a PURLs Journal Club.

For those who will be attending the Program Directors Workshop in Kansas City and want to learn more about the PURLs Journal Club, please go hear Corey Lyon, DO present "Journal Club in a Box: the Plug and Play PURLs Journal Club Curriculum" on Friday, March 28, from 1:00 to 2:00 pm in the Shawnee room.

For more information about PURLs and PURLs Journal Club, please contact Cortni Cross, FPIN’s Director of Finance and PURLs Project Manager (cortni@fpin.org).

Respectfully submitted Wednesday, February 19, 2014 by E. Chris Vincent, MD
Figure: Sample PURLs Journal Club curriculum on the FPIN Institute (from February 2014 - Short term steroids for COPD)
List of FPIN Journal Club topics as of February, 2014

February 2014- Short term steroids for COPD
January 2014- Primary Prevention of Cardiovascular Disease with a Mediterranean Diet
December 2013- Aspirin for preventing the recurrence of venous thromboembolism
November 2013- Asthma Treatment in Children
October 2013- Should you still recommend Omega 3 supplements?
September 2013 - An alternative to warfarin for patients with PE
August 2013 - Is this Pregnancy Viable?
July 2013 - Suspect Carpal Tunnel? Try This
June 2013 - Time to routinely screen for intimate partner violence?
May 2013 - Prescribing an antibiotic? Pair it with probiotics
April 2013 - A spoonful of honey helps a coughing child sleep
March 2013 - Colicky baby? Here’s a surprising remedy!
February 2013 - A Safer Way to Prevent VTE Recurrence
January 2013 - PPRF- More help for patients with less severe heart failure
December 2012 - BP Meds - This simple change improves outcomes
November 2012 - Should breastfeeding babies be given pacifiers?
October 2012- Davigatran vs Warfarin
September 2012 - Spinosad for Lice
August 2012 - Pulse Ox Newborns
July 2012 - Tiotropium COPD Exacerbations

The following pages contain supplemental material to this report, as follows:

1. Detailed instructions for PURLs Journal Club (pages 4 & 5)
2. Sample PURLs Journal Club worksheet (pages 6 - 8)
3. Sample PURLs Journal Club (pages 9 - 12)
1. Detailed instructions for PURLs Journal Club:

1. Obtain Journal Club Toolkit from the FPIN Institute which will include:
   a. Journal Club Instructions (this form)
   b. Speaker Notes (Completed study template)
   c. Blank Study Template Form (based on type of study)
   d. Published PURL

   [Link to the FPIN Institute: https://university.learnlive.com/fpininstitute]

2. Obtain the Original Article PDF (citation in the speaker notes) from your library.

3. Send Original Article PDF along with blank study template form to journal club participants

4. Review speaker notes, read original article and published PURL

5. Identify your journal club presenter and ensure they are prepared to lead participants through the study template form

6. Assist your presenter as needed through the journal club

7. Pass out the published PURL and compare result

I. Learning Standards

   1. RRC Requirements
      a. Residents must gain practical experience in data searching and grading, statistical methods, and application to practice
      b. The training environment must be in compliance with evidence based medicine practice

II. Objectives of Journal Club

   1. By the end of the residency, all residents will be able to perform the five basic components of Evidence Based Medicine and critical appraisal. These components include;
      - Ask answerable questions
      - Assessing validity and relevance of the article
      - Synthesizing data
      - Applying the evidence to their practice
   2. By the end of residency, all residents will know how to use these EBM skills in making clinical decisions.
   3. All residents will be able to conduct a critical appraisal of original research.

III. Components of Journal Club

   1. Journal Club (JC) is a longitudinal experience. Repeat exposure to EBM concepts over the 3 year residency to achieve the goals of the Journal Club curriculum. FPIN recommends conducting a monthly JC.

      [http://www.jfponline.com/default.asp]
      - Obtain the original research article to critically appraise during JC
      - Utilize worksheets during JC to guide the critical appraisal
      - Utilize the faculty speaker notes to help guide the critical appraisal
IV. Format of Journal Club

1. Resident learners read the background information from the research article.
   - From the background, define the clinical question using PICO
     - P – patient or population
     - I – intervention being investigated
     - C – Comparison
     - O – Outcomes being measured

2. Discuss the relevance of the article – use the appropriate worksheet as a tool.

3. Review the methods section. Discuss the validity of the study – using the worksheet as a tool

4. Review the result section
   - Utilize the appropriate worksheet as a tool to synthesize the results (and the faculty speaker notes)
     - Look for statistical significance with the results, utilizing the data provided
       - How large was the treatment effect
       - How precise was the treatment effect
       - convert data to user friendly data if possible (Number Needed to Treat)
     - Are the results clinically significant?
     - Are there other factors that could affect the outcome?

5. Discuss how to apply the evidence
   - Are the results clinically significance?
   - Can the results be applied to your patients?
   - Will the results change your practice?

6. Using the CEBM table, assign a Level of Evidence to the article (the PURLs article will have done this as well)

V. Tools available for the critical appraisal;

- Worksheets on RCT studies, cohort trials, systematic reviews, diagnosis studies
- Faculty speaker notes
- PURLs article
- EBM glossary of terms
- CEBM table for assigning a LoE

*[End of: 1. Detailed instructions for PURLs Journal Club]*
2. FPIN PURLS Journal Club – Sample worksheet

RANDOMIZED CONTROLLED TRIAL

1. What question did the study attempt to answer?

   Patients -
   Intervention -
   Comparison -
   Outcome –

   Did the study address an appropriate and clearly focused question   ☐ Yes ☐ No

2. Determining Relevance:

   a. Did the authors study a clinically meaningful and/or a patient oriented outcome?   ☐ Yes ☐ No

   b. The patients covered by the review similar to your population ☐ Yes ☐ No

3. Determining Validity:

   Study design;

   a. Was it a controlled trial?   ☐ Yes ☐ No

   b. Were patients randomly allocated to comparison groups?   ☐ Yes ☐ No ☐ Unclear
c. Were groups similar at the start of a trial?  □ Yes  □ No  □ Unclear

d. Were patients and study personnel “blind” to treatment?
   □ Yes  □ No  □ Unclear

e. Aside from allocated treatment, were groups treated equally?
   □ Yes  □ No  □ Unclear

f. Were all patients who entered the trial properly accounted for at its conclusion
   □ Yes  □ No  □ Unclear

4. What are the results?
   a. What are the overall results of the study?
b. Are the results statistically significant? [ ] Yes  [ ] No

c. Are the results clinically significant? [ ] Yes  [ ] No

d. Were there other factors that might have affected the outcome? [ ] Yes  [ ] No

5. Applying the evidence:

   a. If the findings are valid and relevant, will this change your current practice? [ ] Yes  [ ] No

   b. Is the change in practice something that can be done in a medical care setting of a family physician? [ ] Yes  [ ] No

   c. Can the results be implemented? [ ] Yes  [ ] No

   d. Are there any barrier to immediate implementation? [ ] Yes  [ ] No

   e. How was this study funded?

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[End of: 2. FPIN PURLs Journal Club – Sample worksheet]

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3. FPIN PURLs Journal Club – Sample speaker’s notes

RANDOMIZED CONTROLLED TRIAL: SPEAKER NOTES

Title: How many days of steroids for acute COPD exacerbations?

Author: Sarah-Anne Schumann, MD – University of Oklahoma, Tulsa

PURL Citation: Asher GN, Mounsey A. Steroids for acute COPD-but for how long? JFP 2014; 63:29-32.


Editor: Corey Lyon, DO – University of Colorado

1. What question did the study attempt to answer?

Patients - >age 40, >20 pack year smoking history, with acute COPD exacerbation

Intervention – 5 days of steroid treatment (1st dose 40 mg IV methylprednisolone then 40mg oral prednisone)

Comparison – 14 days of steroid treatment (1st dose IV, then oral for 13 days)

Outcome – time to next COPD exacerbation

Did the study address an appropriate and clearly focused question  ☒ Yes  ☐ No

2. Determining Relevance:

a. Did the authors study a clinically meaningful and/or a patient oriented outcome?  ☒ Yes  ☐ No

Time to next COPD exacerbation

b. The patients covered by the review similar to your population  ☒ Yes  ☐ No

Patient with COPD is a common patient seen in a family physicians clinic
3. Determining Validity:

Study design;

a. Was it a controlled trial? ☒ Yes ☐ No

b. Were patients randomly allocated to comparison groups? ☒ Yes ☐ No ☐ Unclear

c. Were groups similar at the start of a trial? ☒ Yes ☐ No ☐ Unclear

More women in conventional group: 46.5% vs. 32.7%

More smokers in short-term treatment group favors the null hypothesis

d. Were patients and study personnel “blind” to treatment? ☒ Yes ☐ No ☐ Unclear

e. Aside from allocated treatment, were groups treated equally? ☒ Yes ☐ No ☐ Unclear

All patients also received antibiotics, bronchodilator 4-6 times/day prn, inhaled glucocorticoids BID, tiotropium daily; the only difference was the duration of prednisone 40mg.

f. Were all patients who entered the trial properly accounted for at its conclusion ☒ Yes ☐ No ☐ Unclear

4. What are the results?

a. What are the overall results of the study?
First, review the statistical analysis, so you know what your results will mean; in this trial, the study authors defined a 15% difference in re-exacerbations between groups as the clinically tolerable upper limits. This translates to a HR of 1.515 as the critical hazard ratio for non-inferiority.

Out of 311 patients (296 that completed the full 14 days) a total of 56 patients (35.9%) reached the primary end point of COPD exacerbation in the short-term treatment group compared with 57 patients (36.8%) in the conventional treatment group. Time to reexacerbation did not differ between groups with the HR of reexacerbation between the short-term and conventional treatment group of 0.95 (90% CI, 0.70 to 1.29; P = .006 – for noninferiority) in the intention-to-treat and 0.93 (90% CI, 0.68 to 1.26; P = .005 – for noninferiority) in the per-protocol analysis, meeting our noninferiority criterion (ie less than a HR of 1.515);

All the outcomes in table 2 reveal a HR less than 1.515

b. Are the results statistically significant? ☑ Yes ☐ No

c. Are the results clinically significant? ☑ Yes ☐ No

d. Were there other factors that might have affected the outcome? ☐ Yes ☑ No

5. Applying the evidence:

a. If the findings are valid and relevant, will this change your current practice? ☑ Yes ☐ No

b. Is the change in practice something that can be done in a medical care setting of a family physician? ☑ Yes ☐ No

c. Can the results be implemented? ☑ Yes ☐ No

d. Are there any barrier to immediate implementation? ☐ Yes ☑ No

e. How was this study funded?

TheREDUCEtrial was an investigator initiated study supported by the Department of Medicine, University Hospital Basel; the Clinic of Internal Medicine, Hospital Center of Biel-Bienne; Freie Akademische Gesellschaft; Fonds fu¨r Lehre und Forschung; AstraZeneca; Viollier Laboratory; Gottfried und Julia Bangerter- Rhyner-Stiftung fur Medizinische Forschung
6. Teaching Points

Non-inferiority study:

*Reasons for Choosing a Non-Inferiority Design*

Showing non-inferiority of the experimental treatment E versus the control treatment C can be of interest because of the following:

- *It is not ethically possible (anymore) to do a placebo controlled trial.*

- *E is not expected to be better than C on a primary efficacy end point, but is better on secondary end points or is safer.* (** this is the case here where lower total dose of steroid is better)

- *E is not expected to be better than C on a primary efficacy end point but is cheaper to produce or easier to administer.*

- *E is not expected to be better than C on a primary efficacy end point in a clinical trial, but compliance will be better outside the clinical trial and hence efficacy will be better outside the trial.*


Teaching point #2 Hazard Ratio

The hazard ratio is an expression of the hazard or chance of events occurring in the treatment arm as a ratio of the hazard of the events occurring in the control arm. The term hazard ratio is often used interchangeably with the term relative risk ratio to describe results in clinical trials. This is not strictly correct as there are subtle and important differences. It is useful to understand the meaning of the term and also be able to identify when it is used appropriately. Hazard ratios are increasingly used to express effects in studies comparing treatments when statistics which describe time-to-event or survival analyses are used.


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[End of: 3. FPIN PURLs Journal Club – Sample speaker’s notes]
4. Quick Reference Guide for using the FPIN Institute

1. Login to the FPIN Institute
   - URL: [https://university.learnlive.com/fpinstitute](https://university.learnlive.com/fpinstitute)
   - Your first time logging in, select New Student Registration.
   - Select a username and password, and fill in all required fields.
   - In the field asking for your ‘Company pass code’, type in: fpininst
   - In the dropdown list for the ‘Office’ field, please select the name of your program.
   - Click Submit.

2. View Catalog and Enroll
   Once logged in, click My Catalog tab. You will see a list of programs to choose from.
   Select and open the learning path that corresponds to the writing project you wish to be involved in, either by clicking the learning track name or the open button on the right. Bonus EBM Curriculum, such as the PURLs Journal Club and Physician Numeracy series, are available as learning tracks for you to access.
   Once you are viewing the learning path or track, click Enroll.

3. Launch a course
   To start one of the courses within your learning track, click on the launch button.
   Please note: Some of the courses have handouts that accompany the courses. These will be on the bottom of the first screen where you start the course or webcast.

HAVE A QUESTION? CONTACT US AT ONLINELEARNING@FPIN.ORG or call 573-256-2066!

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** Required prior to signing up for topic!

PLUS ... bonus EBM Curriculum includes PURLs Journal Club and Physician Numeracy webinars!