

Supplemental Material 1.

PCORI Training Modules

Research¹

- The Navigator
<https://www.pcori.org/engagement/research-fundamentals/navigator>
- The PCORI Approach to Patient-Centered Outcomes Research
<https://www.pcori.org/engagement/research-fundamentals/pcori-approach-pcor>
- Engaging in Stakeholder-Driven Research,
<https://www.pcori.org/engagement/research-fundamentals/engaging-stakeholder-driven-research>
- Module 1: Developing Research Questions
<https://www.pcori.org/engagement/research-fundamentals/developing-research-questions>
- Module 2: Designing the Research Study
<https://www.pcori.org/engagement/research-fundamentals/developing-research-questions>
- Module 3: Planning Patient-Centered Consent and Study Protocols
<https://www.pcori.org/engagement/research-fundamentals/planning-patient-centered-consent-study-protocols>
- Module 4: Sampling, Recruiting, and Retaining Study Participants
<https://www.pcori.org/engagement/research-fundamentals/sampling-recruiting-retaining-study-participants>
- Module 5: Understanding and Sharing Research Findings
<https://www.pcori.org/engagement/research-fundamentals/understanding-sharing-research-findings>

Teams²

- Building Effective Multi-Stakeholder Teams: Engaging Stakeholders
<https://research-teams.pcori.org/engaging-stakeholders>
- Building Effective Multi-Stakeholder Teams: Working as a Team
<https://research-teams.pcori.org/working-as-a-team>

Supplemental Material 2.

Mastering Dry Eye. Study Guide, Table of Contents.

Table of Content from Mastering Dry Eye: A learning experience presented in conjunction with Your Dry Eye Mystery Solved: Reversing Meibomian Gland Dysfunction, Restoring Hope.³

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Supplemental Material 3.

Mastering Dry Eye, Sample Challenge Questions. Modules B, C, and D.



MASTERING DRY EYE

MODULE B – CHAPTER 1

DISCUSSION SESSION CHALLENGE ITEMS: Each item provides you with a challenge to solve. For your assigned items, discuss your proposed solution and record your response in the field on the right. Be prepared to present your decisions.

CHALLENGE ITEM	NOTES ON YOUR RESPONSE
<p>Challenge 1-1: RABBIT AND HUMAN MEIBOMIAN GLANDS</p> <p>Review the photos of rabbit and human Meibomian glands shown in Fig. 1.1 (p. 40) and discuss your responses to the questions below.</p> <ul style="list-style-type: none">• What similarities do you notice between rabbit Meibomian glands and human Meibomian glands?• What differences do you notice between rabbit Meibomian glands and human Meibomian glands?	<p>Similarities:</p> <p>Differences:</p>
<p>Challenge 1-2: COMPARING POSTERIOR BLEPHARITIS TO EVAPORATIVE DRY EYE</p> <p>Review the definitions and descriptions of Posterior Blepharitis and Evaporative Dry Eye and discuss your responses to the following questions.</p> <ul style="list-style-type: none">• Do the terms <i>Posterior Blepharitis</i> and <i>Evaporative Dry Eye</i> mean the same thing? Can the terms be used interchangeably?• What issues might be associated with using the terms interchangeably?• What clarifications would you provide to someone who is getting the two terms confused?	
<p>Challenge 1-3: DISCUSSING THE MYTHS ABOUT MGD</p> <p>Review the eight myths that were introduced at the end of Chapter 1. Collectively, identify the top two myths that most apply to you (or to someone you know). For each myth you select, discuss your responses to the following questions.</p> <ul style="list-style-type: none">• Since this myth applied to you (or to someone you know), did you believe this myth? If so, what contributed to your belief in it?• Now that you know that the myth is untrue, how do you (or someone you know) benefit?	



MASTERING DRY EYE

MODULE C – CHAPTER 3

DISCUSSION SESSION CHALLENGE ITEMS: Each item provides you with a challenge to solve. For your assigned items, discuss your proposed solution and record your response in the field on the right. Be prepared to present your decisions.

CHALLENGE ITEM	NOTES ON YOUR RESPONSE
<p>Challenge 3-3: MEIBUM'S PATH TO THE NOSE</p> <p>Describe the path that meibum takes to eventually arrive in the nose, using the key terms listed below.</p> <ul style="list-style-type: none">• Junction of central duct and acinar-ductular unit• Acinus• Ductule• Central duct• Excretory duct• Orifice• Lid margin• Tear film• Tear outflow duct	
<p>Challenge 3-4: MEIBOMIAN GLANDS ARE SEBACEOUS, HOLOCRINE, AND EXOCRINE</p> <p>Discuss your responses to the statement and the associated questions that follow.</p> <p>Meibomian glands are sebaceous, holocrine, and exocrine.</p> <ul style="list-style-type: none">• How can knowing this influence a clinician treating a patient?• How can knowing this influence a researcher designing a study about Meibomian glands?	
<p>Challenge 3-5: THE STRUCTURE OF A MEIBOMIAN GLAND</p> <p>The parts that make up the structure of a Meibomian gland are the acini, ductules, central ducts, excretory ducts, and orifices.</p> <ul style="list-style-type: none">• How can knowing the structure of a Meibomian gland influence a clinician treating a patient with MGD?• How can knowing the structure of a Meibomian gland influence a researcher studying a treatment for MGD?	
<p>Challenge 3-6: THE PROCESS OF MEIBUM SYNTHESIS AND SECRETION</p> <p>The process of meibum synthesis and secretion are described in Challenges 3-1 and 3-2.</p> <ul style="list-style-type: none">• How can knowing the process of meibum synthesis and secretion influence a clinician treating a patient with MGD?• How can knowing the process of meibum synthesis and secretion influence a researcher studying a treatment for MGD?	



MASTERING DRY EYE

MODULE D – CHAPTER 5

DISCUSSION SESSION CHALLENGE ITEMS: Each item provides you with a challenge to solve. For your assigned items, discuss your proposed solution and record your response in the field on the right. Be prepared to present your decisions.

CHALLENGE ITEM	NOTES ON YOUR RESPONSE
<p>Challenge 5-1: COMORBIDITIES AND THEIR ROLE IN MGD</p> <p>Select three and describe the roles they play in MGD.</p> <p>Chapter 5 of <i>Your Dry Eye Mystery Solved</i> examines comorbidities – diseases of the eye that occur at the same time as other diseases.</p> <ul style="list-style-type: none">Identify three comorbidities and describe how each one plays a role in MGD.	
<p>Challenge 5-2: CATEGORIES OF COFACTORS THAT CAN CONTRIBUTE TO MGD</p> <p>Follow the instructions and prepare your response.</p> <p>Chapter 5 of <i>Your Dry Eye Mystery Solved</i> identifies four categories of cofactors that can contribute to MGD.</p> <ul style="list-style-type: none">Identify the four categories of cofactors and describe each one.	
<p>Challenge 5-3: EXPLAINING THE COMPLEXITY</p> <p>Review the statement and discuss your responses to the following questions.</p> <p>Keeping in mind the comorbidities that can coexist with MGD and the factors that can contribute to disease:</p> <ul style="list-style-type: none">Will studying MGD in a research setting be a relatively simple undertaking or relatively complex? Why so?How about treating a patient with MGD, simple or complex? Why so?How about for a patient managing the disease at home, simple or complex? Why so?	

Supplemental Material 4.

Judges' Scoring Rubric

Score Card

Research Study Title _____

Criteria	Excellent (4)	Good (3)	Fair (2)	Poor (1)	Score
Clarity of research question	Clearly defined and well-articulated	Mostly clear with minor ambiguities	Somewhat clear but lacks detail	Unclear or poorly defined	
Literature review	Comprehensive and up-to-date	Adequate but could be more thorough	Limited and outdated	Inadequate or missing	
Hypothesis/Research Objective	Specific, testable, and relevant	Generally clear but could be more specific	Vague or not clearly stated	Not testable or irrelevant	
Methodology	Detailed, appropriate, and well-explained	Generally appropriate but lacks detail	Incomplete or poorly explained	Inappropriate or missing	
Sampling	Well-justified and appropriate	Adequate but could be better justified	Poorly justified	Not justified or inappropriate	
Data collection methods	Rigorous, systematic, and well-described	Generally systematic but lacks rigor	Inconsistent or poorly described	Unsystematic or missing	
Data analysis plan	Comprehensive and appropriate	Adequate but could be more detailed	Limited or vague	Inadequate or missing	
Ethical considerations	Fully addressed	Generally addressed but could be more thorough	Partially addressed	Not addressed	
Feasibility	Highly feasible with clear plan	Feasible but with some concerns	Somewhat feasible	Not feasible	
Potential impact	High potential to contribute to the field	Moderate potential	Low potential	No potential	
Responses to judges' questions	<i>No questions were asked</i> or	Generally addressed but	Partially addressed	Not addressed	

	questions were fully addressed	could be more thorough			
				Total Score	

Qualitative Assessment and Questions for Teams

Research Study Title _____

Strengths of Research Study

- 1.
- 2.
- 3.

Opportunities for Improvement

- 1.
- 2.
- 3.

Questions for Team

- 1.
- 2.
- 3.
- 4.

Supplemental Material 5

Interviewer Guide

1. Introduction

In this interview we are interested in hearing about your perceptions of the three phases of Dry Eye Patient Council training

- PCORI online modules
- Mastering Dry Eye
- Dry Eye Patient Council Practicum
- Overall experience

2. PCORI online modules

Considering your experience with the PCORI online modules on patient-centered research and comparative effectiveness research...

- What did you learn from this experience that was valuable to you?
- How valuable was it (very valuable, somewhat valuable?)
- And why was it valuable?
- What surprised you about this experience
- Of the listed methods (videos, quizzes, PowerPoint slides), which were *effective* in contributing to your learning?
 - How effective were they (very effective, somewhat effective?)
 - And why?
- Of the listed methods (videos, quizzes, PowerPoint slides), which were *not effective* in contributing to your learning?
 - How ineffective were they (very ineffective, somewhat ineffective?)
 - And why?
- On a scale of 1 to 5 (1= no knowledge, 2 = minimal knowledge, 3 = moderate knowledge, 4 = good knowledge, 5 = expert knowledge) how would you rate your knowledge of patient-centered comparative effectiveness research *before* the PCORI modules?
 - And why?
- On a scale of 1 to 5 (1= no knowledge, 2 = minimal knowledge, 3 = moderate knowledge, 4 = good knowledge, 5 = expert knowledge) how would you rate your knowledge of patient-centered comparative effectiveness research *after* the PCORI modules?
 - And why?

3. Mastering Dry Eye

Considering your experience with the Mastering Dry Eye training...

- What did you learn from this experience that was valuable to you?
- How valuable was it (very valuable, somewhat valuable?)
- And why was it valuable?
- What surprised you about this experience
- Of the listed methods (text book, study guide, quizzes, discussion sessions, final exam), which were *effective* in contributing to your learning?
 - How effective were they (very effective, somewhat effective?)
 - And why?
- Of the listed methods (videos, quizzes, PowerPoint slides), which were *not effective* in contributing to your learning?
 - How ineffective were they (very ineffective, somewhat ineffective?)
 - And why?
- On a scale of 1 to 5 (1= no knowledge, 2 = minimal knowledge, 3 = moderate knowledge, 4 = good knowledge, 5 = expert knowledge) how would you rate your knowledge of dry eye *before* this experience?
 - And why?
- On a scale of 1 to 5 (1= no knowledge, 2 = minimal knowledge, 3 = moderate knowledge, 4 = good knowledge, 5 = expert knowledge) how would you rate your knowledge of dry eye *after* this experience?
 - And why?
- On a scale of 1 to 5 (1= poor, 2 = fair, 3 = good, 4 = very good, 5 = excellent) how would you rate:
 - The quality of Mastering Dry Eye training?
 - The quality of questions asked in the quizzes?
 - The quality of the discussion sessions?
 - The quality of the study guide?
 - The quality of the learning management system software?
 - The quality of the book *Your Dry Eye Mystery Solved: Reversing Meibomian Gland Dysfunction, Restoring Hope*?
- On a scale of 1 to 5 (1 = very disengaged, 2 = disengaged, 3 = somewhat engaged, somewhat disengaged, 4 = engaged, 5 = very engaged), overall, how would you rate your engagement or disengagement in Mastering Dry Eye training?
- Are there any other comments you would like to make about Mastering Dry Eye training?

4. Dry Eye Patient Council Practicum

Considering your experience with the Dry Eye Patient Council practicum...

- What did you learn from this experience that was valuable to you?
- How valuable was it (very valuable, somewhat valuable?)
- And why was it valuable?
- What surprised you about this experience
- Of the listed methods (study guide; virtual instruction; team contract; team project assignments: written study, study presentation, addendum), which were *effective* in contributing to your learning?
 - How effective were they (very effective, somewhat effective?)
 - And why?
- Of the listed methods (study guide; virtual instruction; team contract; team project assignments: written study, study presentation, addendum), which were *not effective* in contributing to your learning?
 - How ineffective were they (very ineffective, somewhat ineffective?)
 - And why?
- On a scale of 1 to 5 (1= no knowledge, 2 = minimal knowledge, 3 = moderate knowledge, 4 = good knowledge, 5 = expert knowledge) how would you rate your knowledge of designing a research study *before* this experience?
 - And why?
- On a scale of 1 to 5 (1= no knowledge, 2 = minimal knowledge, 3 = moderate knowledge, 4 = good knowledge, 5 = expert knowledge) how would you rate your knowledge of designing a research study *after* this experience?
 - And why?
- On a scale of 1 to 5 (1= poor, 2 = fair, 3 = good, 4 = very good, 5 = excellent) how would you rate:
 - The quality of the Dry Eye Patient Council practicum?
 - The effectiveness of your team contract in setting expectations for your team's collaboration?
 - The quality of the materials provided in the training packet and via email?
- (*For patients only*) On a scale of 1 to 5 (1= poor, 2 = fair, 3 = good, 4 = very good, 5 = excellent), overall, how would you rate the effectiveness of the practicum in preparing you for membership in a Dry Eye Patient Council?
- On a scale of 1 to 5 (1 = very disengaged, 2 = disengaged, 3 = somewhat engaged, somewhat disengaged, 4 = engaged, 5 = very engaged), overall, how would you rate your engagement or disengagement in the six Zoom sessions?
- Are there any other comments you would like to make about the practicum?

4. Overall Experience

Considering all three phases of this experience...

- What motivated you to participate in this training experience? In other words, what were you hoping to learn or take away from the experience?
 - Feel free to include personal, professional or other reasons that mattered to you.
- On a scale of 1 to 5 (1 = not met at all, 2 = met minimally, 3 = moderately met, 4 = fully met, 5 = clearly exceeded) how much would you say your objectives were met?
 - And why?
- How satisfied or unsatisfied are you with the level of compensation you received? (1 = very unsatisfied, 2 = unsatisfied, 3 = neither satisfied nor unsatisfied, 4 = satisfied, 5 = very satisfied).
 - Please elaborate
- How like or unlikely are you to recommend this experience (PCORI online modules, Mastering Dry Eye, Patient Council practicum) to others? (1 = very unlikely, 2 = somewhat unlikely, 3 = neither likely nor unlikely, 4 = somewhat likely, 5 = very likely).
 - And why?
- (*For patients only*) How long have you had dry eye? How did this experience change the way you manage or cope with this disease?
- Are there any other comments you would like to make about the overall experience?

Supplemental Material 6.

Sample Interviewer PowerPoint Slides

Mastering Dry Eye

- Of these listed methods, which were effective in contributing to your learning?
- How effective were they (very effective, somewhat effective)?
- And why?

Text book
Study Guide
Quizzes
Discussion sessions
Final exam

Mastering Dry Eye

- Of these listed methods, which were not effective in contributing to your learning?
- How ineffective were they (very ineffective, somewhat ineffective)?
- And why?

Text book
Study Guide
Quizzes
Discussion sessions
Final exam

Mastering Dry Eye

- On a scale of 1 to 5, how would you rate your knowledge of Dry Eye **before this experience**?
- And why?

1	2	3	4	5
no knowledge	minimal knowledge	moderate knowledge	good knowledge	expert knowledge

Mastering Dry Eye

- On a scale of 1 to 5, how would you rate your knowledge of Dry Eye **after this experience**?
- And why?

1	2	3	4	5
no knowledge	minimal knowledge	moderate knowledge	good knowledge	expert knowledge

References

1. PCORI. Research fundamentals: Preparing you to successfully contribute to research. [PCORI]. (<https://www.pcori.org/engagement-research/engagement-resources/research-fundamentals-preparing-you-successfully-contribute-research#ResearchFundamentals>).
2. PCORI. Building effective multi-stakeholder research teams. (<https://research-teams.pcori.org/>).
3. Maskin SL, Warren NA. Your dry eye mystery solved: Reversing Meibomian gland dysfunction, restoring hope. New Haven and London: Yale University Press, 2022.