GRAPPA
Group for Research and Assessment of Psoriasis and Psoriatic Arthritis

SHORT COURSE AT GRAPPA:
AN INTRODUCTION TO EPIDEMIOLOGY

FACULTY

Lihi Eder, MSc, PhD
Associate Professor
University of Toronto
Canada

Gareth Jones, BSc(Hons), MSc.Econ, PhD
Chair in Epidemiology
University of Aberdeen
United Kingdom

Alexis Ogdie, MD, MSCE
Associate Professor of Medicine
and Epidemiology
University of Pennsylvania
United States

Gary Macfarlane, BSc (Hons), MBChB, PhD, CStat, MD (Hons), FFPHM, DSc
Clinical Chair in Epidemiology
University of Aberdeen
United Kingdom

Thursday July 11, 2024
at the Annual Meeting in Seattle
07:30-14:00 in Willow A&B

These topics have been informed by a survey of GRAPPA members conducted prior to the GRAPPA 2023 Annual Meeting. The format will be a series of short lectures led by Professor Gary Macfarlane, Professor Gareth Jones, Dr. Alexis Ogdie, and Dr. Lihi Eder, interspersed with "hands-on" sessions in which delegates will have an opportunity to discuss in more detail a particular topic and tackle a challenge in that area. By the end of the course delegates will have had "taster" of key areas in Epidemiology.

GRAPPA

Group for Research and Assessment of Psoriasis and Psoriatic Arthritis

SHORT COURSE AT GRAPPA:

AN INTRODUCTION TO EPIDEMIOLOGY

DESCRIPTION

The course will provide a brief introduction to some key issues in Epidemiology including:

> Study Design
Choosing the most appropriate study design for your research question, budget and timelines; the opportunities and challenges of "real-world evidence."

> Methodological Issues
Including bias and confounding; specific issues in studying PsA and PsO; associations and causality.

> Analysis
Introduction to statistical models.

AGENDA

07:30–8:00 30 minutes	***Breakfast for registered epi session attendees***

08:00–08:30
30 minutes
Lecture

Introduction to the course - Gary Macfarlane
What is epidemiology? What questions can it answer? What are some of the challenges in the design and conduct of epidemiology studies and in the analysis and interpretation of data which studies generate? What are some of the key issues you need to consider and which you will learn about during the short course?

08:35–09:05
30 minutes
Lecture

Fundamentals of study designs - Gary Macfarlane
This lecture looks at the study designs in the epidemiologist's toolkit - the key features of each and their strengths and weaknesses. We will briefly consider each of the following: case-control studies; retrospective and prospective cohort studies, case-crossover and case-cohort studies; randomised controlled trials.

09:10–09:40
30 minutes
Lecture

Bias and confounding - Gareth Jones
This lecture will identify the key sources of selection and information bias in epidemiological studies (and how to avoid them), and discuss confounders, mediators and moderators of effect – how do you identify them and why should you treat them differently?

09:40–10:00 20 minutes	***Morning Break***

GRAPPA
GROUP FOR RESEARCH
AND ASSESSMENT OF PSORIASIS AND PSORIATIC ARTHRITIS

SHORT COURSE AT GRAPPA:

AN INTRODUCTION TO EPIDEMIOLOGY

10:00–10:30
30 minutes
Lecture

Disease registries and real-world data for studying PsD - Lihi Eder
This lecture will cover available registries/real-world data for studying psoriatic disease, generalizability, potential biases and missing data, and other considerations in data collection and/or analysis when designing a prospective vs retrospective study.

10:35–11:20
45 minutes
Workshop

Does weight loss improve risk for PsA? - Alexis Ogdie and Lihi Eder
Can you as a clinician recommend weight loss to prevent PsA? In this workshop, we'll examine a variety of study designs to answer the question of whether a patient with psoriasis who is asked to lose weight will then decrease their risk for developing psoriatic arthritis. Participants will be assigned a study design (RCT, cohort study, case control study) in a small group, will be asked to design a study, identify the potential confounders/bias, and an analysis plan that takes into account these considerations. We will discuss the planned studies as a group.

11:25–11:55
30 minutes
Lecture

Analysis - Gareth Jones
This lecture will go from the basics (simple calculation and interpretation of odds ratios and risk ratios), through to modelling in general, and the use of linear and logistic regression. It will finish with a brief discussion of situations where more complex models are appropriate, such as Cox proportional hazards regression and competing risks analysis.

11:55–12:30
35 minutes

Lunch

12:30–13:00
30 minutes
Lecture

Special cases: Risk, predicting, and confounding by indication in psoriatic disease - Alexis Ogdie
In this lecture, we will briefly discuss causal inference and explore confounding by indication. In addition, we will consider risk, selecting appropriate time windows, and methods for identifying/calculating predictors and/or risk factors as well as the potential biases.

13:05–13:50
45 minutes
Workshop

Calculating the risk for PsA and predicting outcomes - Alexis Ogdie and Lihi Eder
In this workshop, we will bring examples of studies examining predictors of outcomes in PsD, specifically studies aiming to predict PsA among patients with psoriasis. Participants will discuss the advantages and disadvantages of these studies and the redesign a new study with unlimited resources to answer this question. Each group will present their study and we will discuss as a group.

13:55–14:00

Wrap up and Goodbye