



Early Brain
and Biological
Development and
Addiction, UME

Podcast Series:

INTRODUCTION

- 1 The Neuro-Developmental Pathway Origins of Addiction

CORE CONCEPTS OF EARLY CHILD DEVELOPMENT

- 2 Brain Architecture and Development
- 3 Early Experiences and Gene Expression
- 4 **Building Cognitive Emotional and Social Capacities**
- 5 Positive, Tolerable and Toxic Stress
- 6 Brain Plasticity and Behavioural Change
- 7 Intervention and Treatment in Children's Mental Health

ADDICTION

- 8 Different Kinds of Addiction
- 9 Prevention, Intervention and Treatment of Addiction
- 10 Early Trauma in Addiction
- 11 Chronic Disease Management Model of Addiction Treatment: A Healthcare System Response
- 12 Quality Improvement Strategies and Evaluation for Addiction Treatment Programs
- 13 Process Improvements in Healthcare Programs to Support Addiction Treatment

Listen to this Podcast
on AFMC.ca



PODCAST 4: Building Cognitive, Emotional and Social Capacities

STUDY GUIDE | Run time 17:41, Released September 2012

Podcast 4, *Building Cognitive, Emotional and Social Capacities*, highlights the importance of building a solid foundation of cognitive, emotional and social skills early in a child's life; the negative effects of such skills not being developed effectively; and how the serve and return interactions between a caregiver and child are the cornerstone for resilient cognitive, emotional and social capabilities. The podcast series has been designed to offer a quick introduction to the subject of early brain and biological development and its connection to addiction. In 10 to 15 minutes, each podcast links specific medical learning objectives with emerging research. Several podcasts also follow the story of Dr. Ray Baker, a physician who has struggled with addiction, to help illustrate the key concepts addressed.

The Association of Faculties of Medicine of Canada (AFMC) created the podcast series based on lectures from the Alberta Family Wellness Initiative, a knowledge mobilization initiative designed to translate scientific research into policy and practice. The lectures have been repurposed, with permission, for undergraduate medical education. Supplementary resources, including virtual patients and a Primer on the Neurobiology of Addiction, are also available on www.afmc.ca.

Learning Objectives:

Once you have listened to this podcast, you should be able to:

- Understand that social, cognitive and emotional development begins early in life and is a critical component in the development of brain architecture
- Recognize that social, cognitive and emotional development has an impact on the environments in which other abilities are developed
- Describe the neurobiology of the effects that early life trauma can have on social and emotional skills and cognitive abilities
- Understand that a positive, nurturing relationship between a parent or caregiver and child is an important means of promoting healthy social, emotional and cognitive development
- Identify serve and return interaction in early life that can prepare children for future experiences by fostering resilience and an ability to adapt to a variety of social situations

Featured Subject Matter Experts:

This podcast features excerpts from the following lectures:

- [Foundations of Social and Emotional Development](#)
Dr. Heather Henderson, Director of the Social Development Lab, University of Miami
- [Adverse Childhood Experiences: Posttraumatic Stress Disorder and Beyond](#)
Dr. Ruth Lanius, Director of the Posttraumatic Stress Disorder Research Unit, University of Western Ontario
- [Stress and Neurobehavioral Development in Childhood](#)
Dr. Megan Gunnar, Professor of Child Development, University of Minnesota

Listeners are encouraged to learn more about the subject matter through their interactions with patients, research and by checking out the AFWI lecture series available at www.albertafamilywellness.org.

COGNITIVE CAPACITIES, serve and return interactions, **Emotional Capacities**, **RELATIONSHIP**, addiction, stress, **Under-Modulation**, **MATERNAL CARE**, Parenting, Caregiver, **CHILD**, over-modulation



Key Learning Points:

- Social, cognitive and emotional development begins early in life and is a critical component in the development of brain architecture
- Social, cognitive and emotional development escalates, and has an impact on the successful development of other basic life skills
- The existence of a positive, nurturing relationship between a parent or caregiver and child promotes healthy social, emotional and cognitive development
- Serve and return interaction between an infant and caregiver fosters resilience and an ability to adapt to a variety of social situations, preparing children for future experiences

Reflective Questions:

1. In your understanding of the development of normal cognitive, emotional and social capacity, and its role in the evolution of mental health, substance abuse and addiction issues, how significant is what you have just learned?
2. Adolescence is an important time when cognitive, emotional and social skills are used more autonomously and further refined. It is also the age when first exposure to potentially addictive substances or behaviours occurs, and problems evolve. How do you think these factors could be related?
3. How would you determine a person's cognitive, emotional and social health when obtaining a personal history, identifying important relationships or exploring his or her occupational and socioeconomic status? What professional skills would be required to do this in a safe and non-judgemental way?
4. How would you assist or advocate for patients in your practice in identifying steps and solutions to improve their cognitive, emotional and social health? How important would you deem the rapport, relationship and continuity of care you establish with patients?

Acknowledgements

DEVELOPED BY:

The Association of Faculties of Medicine of Canada

PRODUCED BY:

Hugh Kellam, PhD Candidate, Instructional Designer, University of Ottawa

Colla MacDonald, PhD, Project Manager & Education Expert, University of Ottawa

SPONSORED BY:

The Norlien Foundation

ADVISORY COMMITTEE:

Niloofer Baria, MD, CCFP, Addiction Medicine Program Committee, College of Family Physicians of Canada

Nancy Brager, MD, FRCPC, Associate Professor, University of Calgary

Peter Butt, MD, CCFP, FCFP, Addiction Medicine Program Committee, College of Family Physicians of Canada

Gary Hnatko, MD, FRCPC, FCPA, Professor, University of Alberta

Lucie Rochefort, MD, MSc., CCMF, FCMF, Addiction Medicine Program Committee, College of Family Physicians of Canada

Nicole Sherren, PhD, Scientific Director & Program Officer, Norlien Foundation

Pamela Weatherbee, Medical Student, University of Calgary

Jonathan White, MD, PhD, FRCSC, MSc, Assistant Professor, University of Alberta

Preparing for your exams...

Medical Council of Canada (MCC) Objectives for the Qualifying Examination (excerpt):

74 PERIODIC HEALTH EXAMINATION (PHE) Rationale: The periodic health examination (PHE) represents an opportunity for the prevention or early detection of health-related problems. The nature of the examination will vary depending on the age, sex, occupation, and cultural background of the patient. **Conditions to consider based on patient age:** 2. Infant and child: b. Abuse/neglect **Key objectives:** Given a patient presenting for a PHE, the candidate will determine the patient's risks for age and sex-specific conditions to guide the history, physical examination, and laboratory screening. (Source: [MCC Objectives for the Qualifying Examination: 74 Periodic Health Examination \(PHE\)](#))

CanMEDS-FMU Undergraduate Competencies from a Family Medicine Perspective

(excerpt):

2. THE FAMILY MEDICINE COMMUNICATOR

2.5. The learner will be able to carry out a patient-centred interview that will include the following:

2.5.7. Explores patients' personal history and context including their family and other important relationships, occupation, socioeconomic status, support systems and spiritual aspects. (Source: *CanMEDS-FMU Undergraduate Competencies from a Family Medicine Perspective: 2. The Family Medicine Communicator*)

5. THE FAMILY MEDICINE HEALTH ADVOCATE

5.5. The learner will be able to describe the attributes of a population they have worked with or are working with and will be able to identify the initial steps on how to work with this population to improve its health. (Source: *CanMEDS-FMU Undergraduate Competencies from a Family Medicine Perspective: 5. The Family Medicine Health Advocate*)

