

Fundamentals of Medicine and Dentistry: Overview and Update

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Evolution of McGill curricula

- 1900: Each basic science subject taught in isolation, as a self-contained course.
- 1994: A ‘systems’ approach to better integrate the disconnected teaching of the basic sciences: the Unit structure that forms the current *Basis of Medicine* (BOM).
- 2005: Introduction of *Physicianship* (the physician as both healer and professional).
- 2010: Faculty Strategic Plan.
 - Education Design Group: “Outline of a Strategic Plan for a Revised McGill Medical Undergraduate Curriculum” (Eidelman, Orłowski, Pickering)

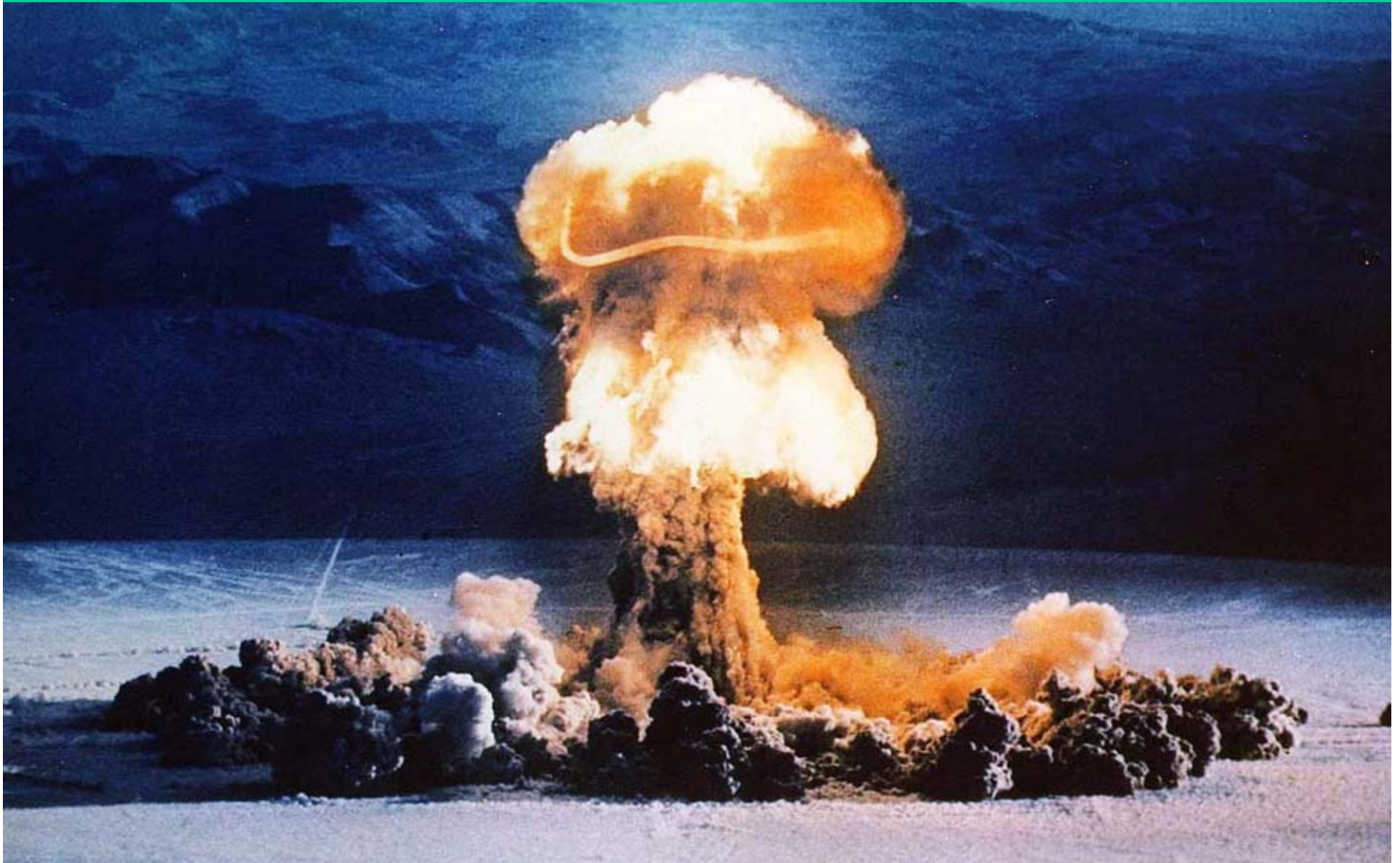
If it isn't broken, why fix it?

Deficiencies in our current curriculum identified by the Education Design Group (2010):

- Meeting societal needs
 - Family medicine physicians
 - Graduates perform poorly in public health and cultural, legal, ethical and organizational aspects of the practice of medicine.
- Defining the limits of what we teach
 - What does every doctor need to know?
- Promoting scholarship and critical thinking
- Meeting accreditation standards
 - Insufficient promotion of independent learning
 - Inadequate central overview of the curriculum
- The BOM/Physicianship disconnect

Building a better BOM:

FUNDAMENTALS OF MEDICINE AND DENTISTRY



FMD Steering Committee

Colin Chalk (*chair*)

Don Boudreau (*Clinical Method*)

Marie Dagenais (*Dentistry*)

Elaine Davis (*Anatomy*)

Jennifer Fitzpatrick (*Genetics*)

Terry Hebert (*Pharmacology*)

Peter McLeod (*Centre for Medical Education*)

René Michel (*Pathology*)

David Ragsdale (*BOM Unit 1 chair - Cellular Biology*)

Adrian Costescu (*medical student*)

Matt Walker (*BOM Unit 2 chair*)

Problems with our current curriculum

(Education Design Group 2010)

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Our province clearly believes that medical schools provide a societal benefit, as evidenced by the fact that they subsidize 90% of the education costs. We know from the Global Burden of Disease study (Murray & Lopez, 1996), that more than 80% of the disease burden in Canada comes from chronic diseases, and we also know that patients with chronic diseases benefit from primary care physicians. The studies of Starfield and colleagues have demonstrated the population health benefit of primary care physicians, a benefit that has not been demonstrated for specialist physicians (Starfield, Shi & Macinko, 2005). Those who work in clinical care in McGill teaching hospitals are faced daily with the difficulties of dealing with patients who don't have a family doctor. However, McGill has the smallest percentage of students choosing family medicine as a career of all 17 medical schools in Canada. *Although specialist physicians and medical research clearly contribute to societal needs, an appropriate balance needs to be found, with more of our graduates choosing family medicine.*

(Eidelman, Orlowski, Pickering 2010)

Family Medicine & McGill

Historically, FM has had a low profile at McGill, and a small proportion of our students choose FM.

‘Peer’ schools produce a much higher proportion of family physicians.

As a publicly funded institution, should we not work to meet societal needs, such as the shortage of family physicians?

Raising the profile of FM

Involve more family physicians in teaching, especially early in curriculum.

Provide regular, early exposure to real-life FM and FMDs: the Longitudinal Family Medicine Program.

Practical considerations

To make the LFMP worthwhile, it should:

- be regular (weekly or biweekly)
- start in 1st year
- be explicitly connected to classroom learning
- be evaluated

To make scheduling feasible, place LFMP in afternoons, and divide class into quintiles. Every afternoon, one quintile is at their FM placement. Therefore:

- 'whole-class' teaching must occur in mornings only.
- any afternoon classroom/SG/lab teaching must be given twice.

WEEK C-4	Monday 25 Nov	Tuesday 26 Nov	Wednesday 27 Nov	Thursday 28 Nov	Friday 29 Nov
8h30-9h25	Anticoagulants	Antiplatelet drugs	Pathology of CHF, CMP, shock	Clinical prevention of heart disease and stroke (S.Grover)	SG - CAD (Path/clinical)
9h30-10h25	Pathology of atherosclerosis 1 & 2	Ischemic Heart Disease (M. Walker)			
10h30-11h25		Acute Coronary Syndromes (M. Walker)	Tobacco control, policy making and health outcomes (Prof Maioni)	ANS and inotropes (M.Guevara)	
11h25-12h30	Lunch	Lunch	Lunch	Lunch	Lunch
12h30-15h30	Quintile A: LFMP	Quintile B: LFMP	Quintile C: LFMP	Quintile D: LFMP	Quintile E: LFMP
	Quintiles B,D,E: Epi Small Group 2 Statistical Concepts for Clinicians	Quintiles A,B: Epi Small Group 2 Statistical Concepts for Clinicians Quintile D: Clinical Method Physical Exam CVS	Quintile E: Clinical Method Physical Exam CVS	Quintiles A,B,E : Auscultation Module	Quintiles C,D : Auscultation Module

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Issues in science teaching for medical/dental students

- Information overload
- Authentic application
- Promoting scholarship and critical inquiry
- Promoting the clinician-scientist

What should every doctor know?

- The human body reacts to an infinite number of insults in a finite number of ways. By identifying all of these ways, the domain of medical knowledge can be defined in a comprehensive manner. (paraphrased from Mandin 2003)
- MCC Clinical Presentations (120) attempt to capture all the reasons patients visit doctors.
- UGME should equip every graduate with the knowledge and skills to handle these CP's. [Furthermore, the MCC qualifying examinations will test if they can...]
- Thus the MCC CP's form a rationale framework to determine what we should include/exclude in our curriculum.

The problem of detail

- A concrete example from BOM Unit 6: Eye Movements.
 - A vast and fascinating area of neuroanatomy and neurophysiology in which we happen to have considerable local expertise.
 - Delivery by an expert produced an admirably focused 1-hour presentation on eye movement systems (& only 20 pages of notes!)
 - Illuminating for the Unit chair and a few students, but overwhelming and thus jettisoned by most of the class.
- Instead, consider things from the MCC CP perspective. Students must understand enough about eye movements to deal with patients presenting with “diplopia”, “coma”, and “dizziness/vertigo”.
 - Anatomy and physiology will be less detailed (easier), but more selective (the challenge).
- McLeod’s goalposts: Must know/Should know/Nice to know.

Overview of FMD

**MOLECULES TO
GLOBAL HEALTH**

RESPIRATION

CIRCULATION

**DIGESTION &
METABOLISM**

RENAL

DEFENCE

INFECTION

MOVEMENT

**REPRODUCTION &
SEXUALITY**

HUMAN BEHAVIOUR

1. Introduce a broader view of medical practice.
2. Teach normal + abnormal in each block.
3. Make explicit connections between classroom and clinic learning from day 1.

FMD Block Leaders

Molecules to Global Health: Anne Andermann

Respiration: Sal Qureshi

Circulation: Matt Walker

Digestion & Metabolism: Chris Zalai

Homeostasis: Tiina Podymow

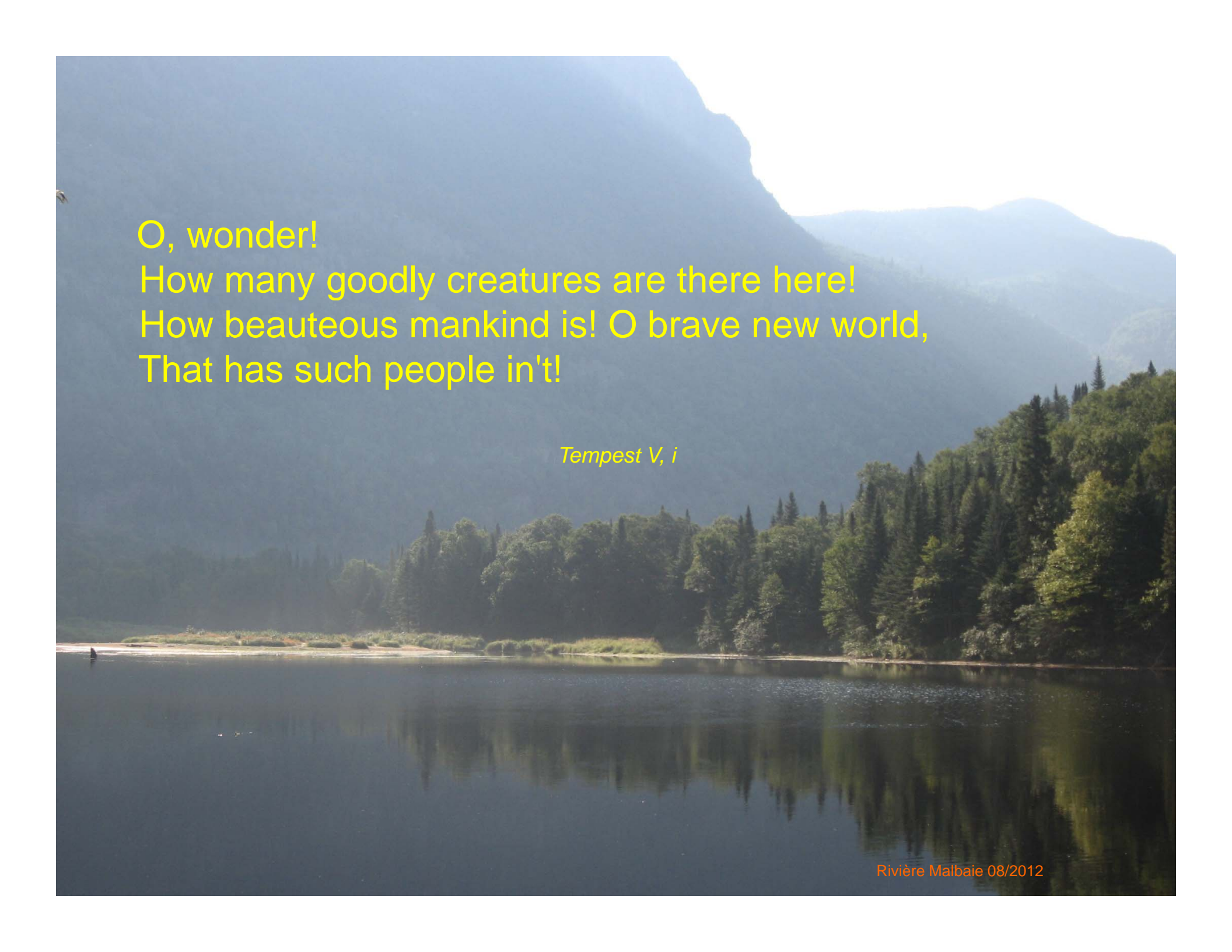
Defense: Christine McCusker

Infection: Chris Karatzios

Movement: Kathryn Sun

Reproduction & Sexuality: Bill Buckett

Human Behaviour: Fraser Moore

A scenic landscape photograph of a calm lake reflecting a dense forest and a large mountain peak under a bright sky. The lake is in the foreground, reflecting the surrounding greenery and the mountain. The forest is dense and green, covering the slopes of the mountain. The mountain peak is large and rugged, with a flat top. The sky is bright and clear. The text is overlaid on the left side of the image.

O, wonder!
How many goodly creatures are there here!
How beauteous mankind is! O brave new world,
That has such people in't!

Tempest V, i

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Overall rank	14	14	10	8	6	7	4	7	9	7
Clinical decision making	13	16	9	11	4	4	14	7	17	8
Multiple Choice								7	8	6
Medicine	9	10	9	8	7	3	1	4	8	6
Surgery	11	9	8	7	4	3	2	3	2	6
Pediatrics	12	10	8	4	3	1	3	2	9	6
Psychiatry	7	13	7	5	2	4	1	3	7	10
Obs/gyn	13	14	8	8	6	12	2	14	8	4
Fam Med								11	9	9
PHELO/CLEO	14	15	11	10	12	15	14	10	15	13
CLEO					13	14	15	11	16	14

McGill performance on MCC Part 1 examination
(rankings compared to 17 Canadian medical schools; 1 is high, 17 is low)

	McGill	U of T	U de M	Laval	Sherb	UBC
2012	43%	39%	45%	47%	46%	38%
2011	41	38	38	41	51	41
2010	36	36	41	40	45	38
2009	33	33	41	36	45	39
2008	18	29	40	31	36	34
2007	20	24	32	33	35	27
2006	23	23	41	36	39	35
2005	23	21	n/a	n/a	n/a	30
2004	17	20	n/a	n/a	n/a	29

Proportion of graduating class matching to (2009-12) or choosing (2004-8)
Family Medicine