

Building Teams in Surgery: The Dolphin Way

**Kishore Mulpuri, MBBS, MS
(Ortho), MHSc (Epi)**

Department of Orthopaedic Surgery
BC Children's Hospital, Vancouver
kmulpuri@cw.bc.ca



Disclosure

- **UBC Department of Orthopaedics:** Kishore Mulpuri
- **Relationships with commercial interests:**
 - **Research Support:** Allergen, DePuy (A Johnson & Johnson Company), I'm a HIPpy Foundation, IPSEN, Pega Medical
 - **Board or committee member:** Canadian Orthopaedic Association, Canadian Pediatric Orthopaedic Group, International Hip Dysplasia Institute, Paradigm Creatives LLC, Pediatric Orthopaedic Society of North America
 - **Editorial or governing board:** Journal of Pediatric Orthopedics



Mitigating Potential Bias

- Not Applicable

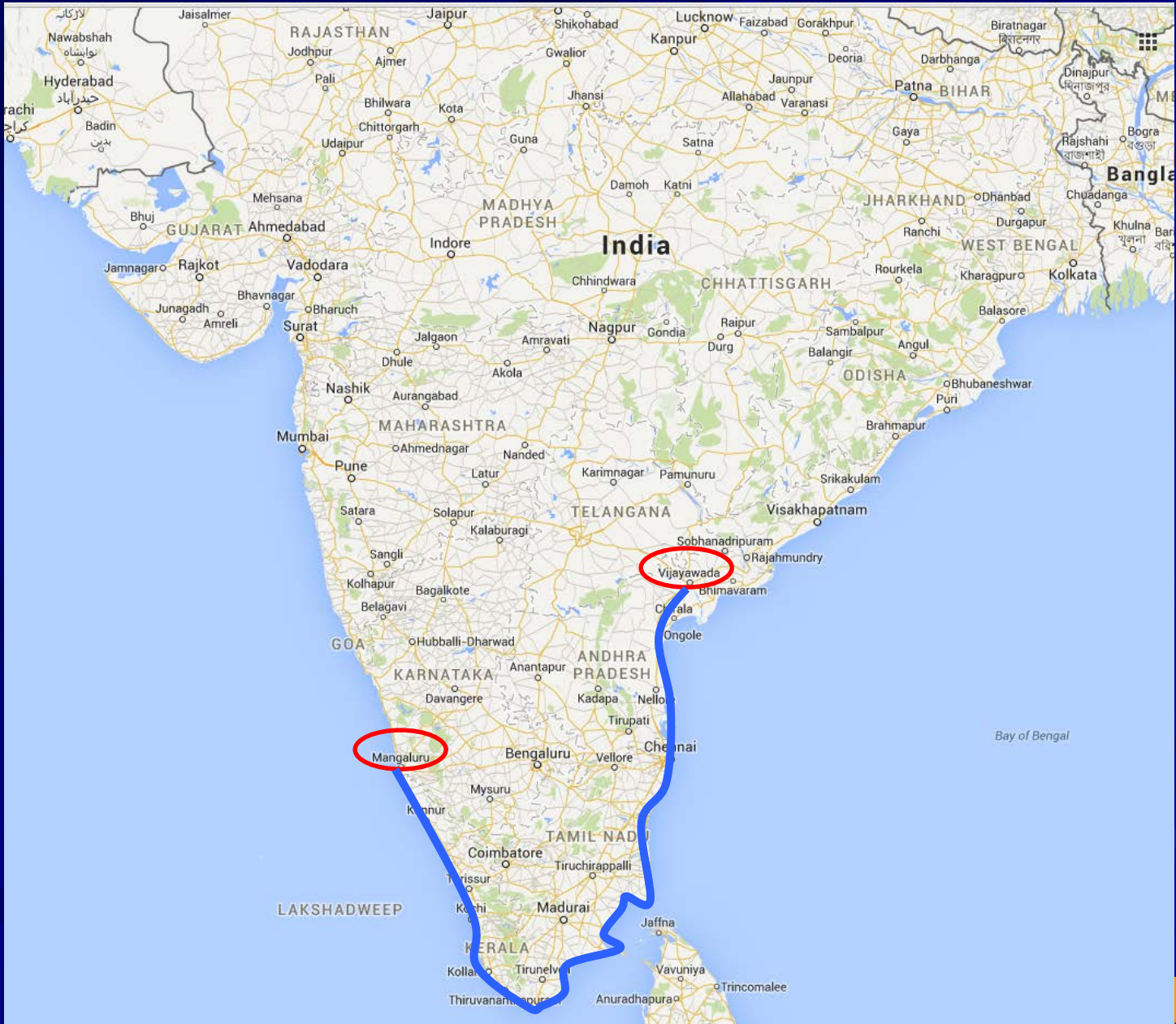


OBJECTIVES

- Building teams in academic medical practice
- Role of mentors and mentorship







My Training

- Medical school
- Orthopaedic Training

- Sports Orthopaedic Fellowship
- Paediatric Orthopaedic Fellowship X 2

- Paediatric Orthopaedic Fellowship
- Masters in Epi







The Dolphin Strategy



<http://www.dolphinbrandstrategy.com/index.html>

**PETER
WILKEN**

BRAND EXPERT



**DOLPHIN
BRAND STRATEGY**



Fish

- **Carp**

- Live alone (unit mentality) or in small schools in quiet, weedy, mud-bottomed lakes
- **Bottom-feeding species**
- Often considered undesirable (unattractive, slimy)
- “Trash fish”
- Lack initiative
- Only follow instructions



- **Sharks**



- Go-getters
- Goal oriented
- Predators
- Eat their own if necessary
- Some species are solitary, while others display social behavior at various levels





- **Dolphins**

- Highly intelligent
- Very social, **live in groups** that hunt & play together (strategic trapping of fish)
- Team mentality
- **Few natural enemies**



Leadership

- **Research**
 - Infrastructure/Current set-up
- **Clinical Practice**
 - CP and Hip
- **Teaching and Training**
 - Resident teaching/Fellowship



Research

THEN

0.2 FTE Research Assistant

No computer available for the fellow

3 abstracts at COA/POSNA in **5 years**

No start-up funding

Research

NOW	NOW
6 Research Staff; 1 Post-doctoral research fellow	20 Abstracts submitted to POSNA
Manager	12 Abstracts to COA
0.4FTE Statistician	
Undergrad/Medical/Graduate Students 21 Projects	
51 Projects	
23 prospective studies	
98 Publications	

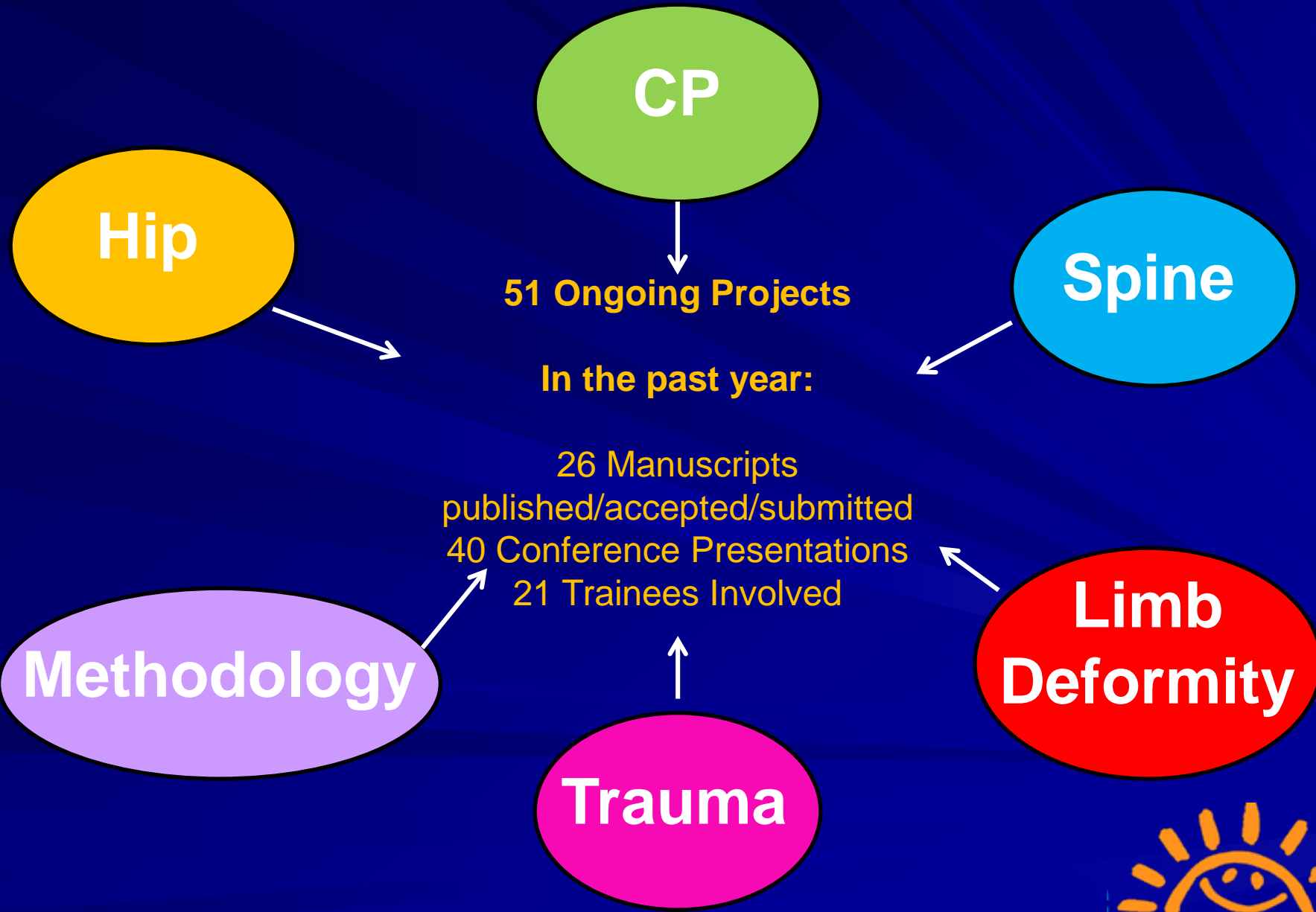
“Bench to Bedside” Research



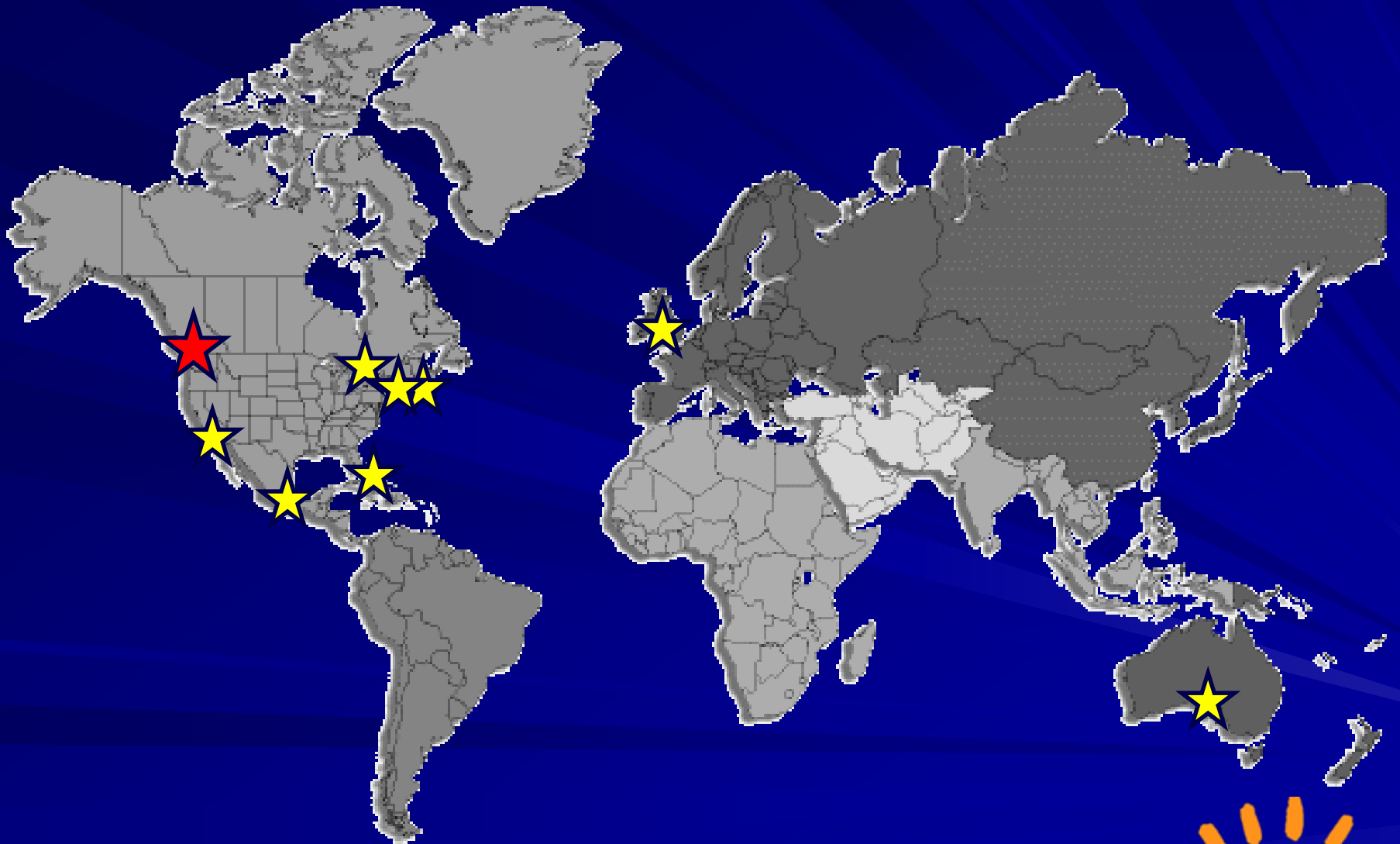
Translational Research



Spheres of Study



IHDI: Participating Centres



IHDI Publications and Presentations

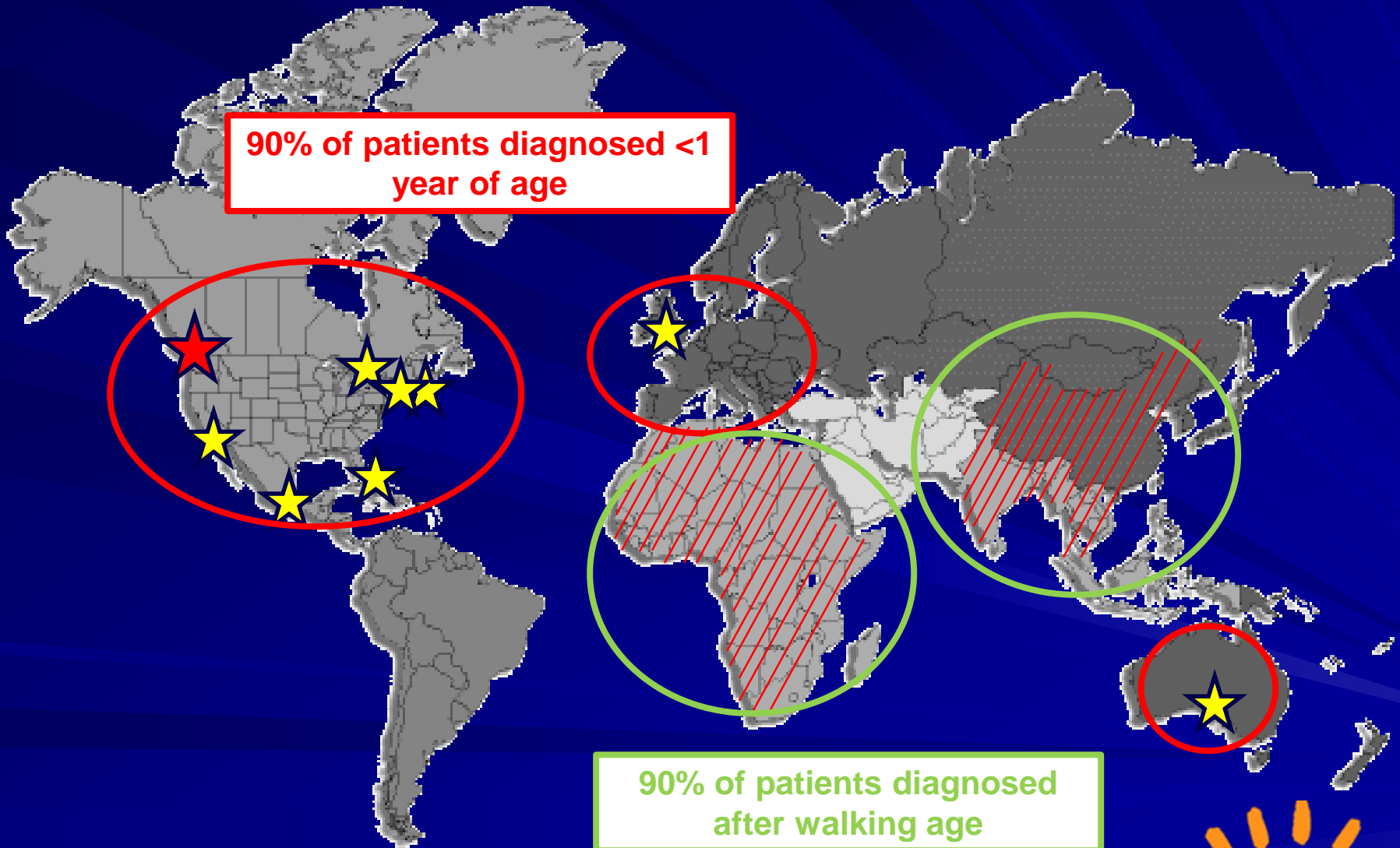
In the last two years:

- 7 *published* manuscripts
- 12 *in preparation/submitted* manuscripts
- 29 *conference presentations/posters*



DDH and Under-served Areas

90% of patients diagnosed <1 year of age



90% of patients diagnosed after walking age



Delivery of Care for DDH

- Working with Pediatric Orthopaedic Society of **India** (POSI) to develop a *DDH care map*
 - **Relevant** practices to suit **local needs/resource availability**
- Adapting this care map with groups in **China**
- Can use as a **model** for developing future, area-specific care delivery systems



I'm a HIPpy

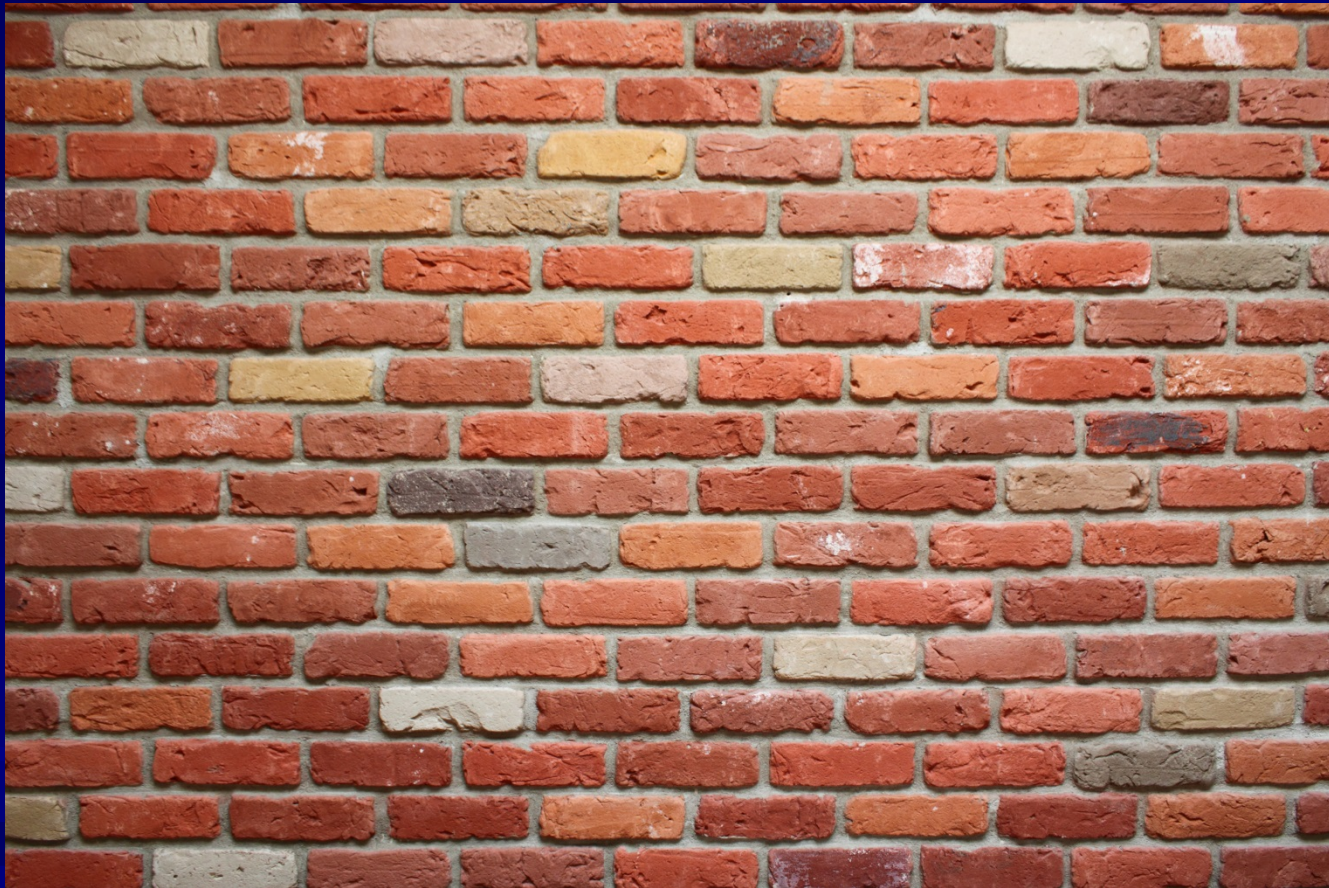


I'm a HIPpy's Ultimate Goal

*No child will have to suffer from the burden of **DDH** or **hip osteoarthritis***



Research Challenges



RCTs

- Femoral Nerve Block
 - ACL
 - Femoral Fracture
- Femoral fracture
 - Nails in or out
- Type I Supracondylar fracture
 - Splint vs cast



RCT

Minimizing Tourniquet Pressure in Pediatric Anterior Cruciate Ligament Reconstructive Surgery *A Blinded, Prospective Randomized Controlled Trial*

Christopher W. Reilly, MD, FRCSC,§|| James A. McEwen, PhD, PEng,*† Lise Leveille, BSc,‡
Angeliki Perdios, MSc,* and Kishore Mulpuri, MBBS, MS(Ortho), MHSc(Epi)*§||¶*

Management of Displaced Supracondylar Fractures of the Humerus using Lateral versus Crossed K wires: A Propsective Randomized Clinical Trial

*Ashlee Dobbe, Emily K Schaeffer, Tammie Teo, Firoz Miyanji, Christine Alvarez,
Anthony P Cooper, Chris W Reilly, Kishore Mulpuri*



The Research Team



Emily Schaeffer, PhD
Scientific Lead – International Hip
Dysplasia Registry, SLIP Registry





Clinical Care

- **Limb Reconstruction**
- **CP and Hip Surgery**



CP Clinic

THEN	NOW
No physio support	2 FTE Physiotherapists 1 FTE Occupational Therapist
No nurse	1 FTE Nurse
No formal protocols	Hip Surveillance Program: 1 FTE Physiotherapist & 1 FTE Program Assistant
No access to ultrasound	Ultrasound clinic
	= 6 FTE Staff



Hip Displacement in Cerebral Palsy: The Need for Hip Surveillance



The Problem

- Hip displacement and dislocation is the second most common musculoskeletal deformity affecting children with cerebral palsy after equinus deformity

Cornell MS. The hip in cerebral palsy. Dev Med Child Neurol 1995; 37: 3–18.



Natural History

Progressive hip subluxation leading to hip dislocation



Early stage

Subluxation

Subluxation
with bony
changes

Dislocation



Natural History

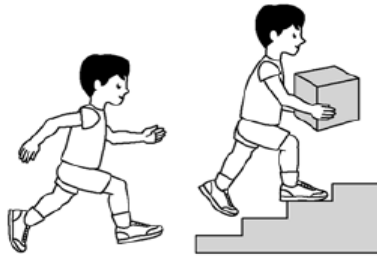
- Hip dislocation with flattening of the femoral head, change in head shape and articular cartilage destruction
- The hip is not reconstructible at this point



Sauser DD, Hewes RC, Root L. Hip changes in spastic cerebral palsy.
AJR Am J Roentgenol 1986; 146:1219–1222.)

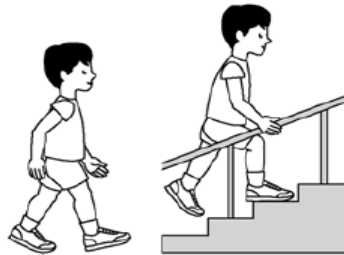


GMFCS : Gross Motor Function Classification System



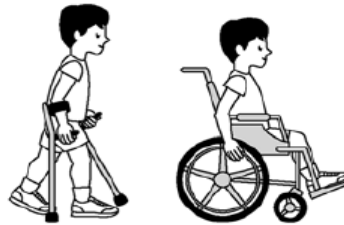
GMFCS Level I

Children walk indoors and outdoors and climb stairs without limitation. Children perform gross motor skills including running and jumping, but speed, balance and co-ordination are impaired.



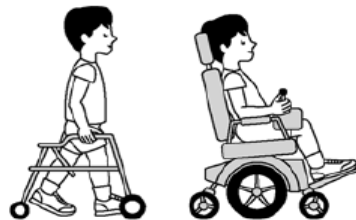
GMFCS Level II

Children walk indoors and outdoors and climb stairs holding onto a railing but experience limitations walking on uneven surfaces and inclines and walking in crowds or confined spaces.



GMFCS Level III

Children walk indoors or outdoors on a level surface with an assistive mobility device. Children may climb stairs holding onto a railing. Children may propel a wheelchair manually or are transported when traveling for long distances or outdoors on uneven terrain.



GMFCS Level IV

Children may continue to walk for short distances on a walker or rely more on wheeled mobility at home and school and in the community.



GMFCS Level V

Physical impairment restricts voluntary control of movement and the ability to maintain antigravity head and trunk postures. All areas of motor function are limited. Children have no means of independent mobility and are transported.

Treatment Strategies

Extent of hip displacement

Intervention In patient OR time Blood loss ICU care



Minimal Subluxation

Botox Inj Daycare 45 min 0 Not needed



Subluxation

Soft tissue release 2 days 120 min 100 -150 Not needed



Subluxation with bony changes

Soft tissue + bony reconstruction + hip spica 5 days 5 hours 800-1000 Possible

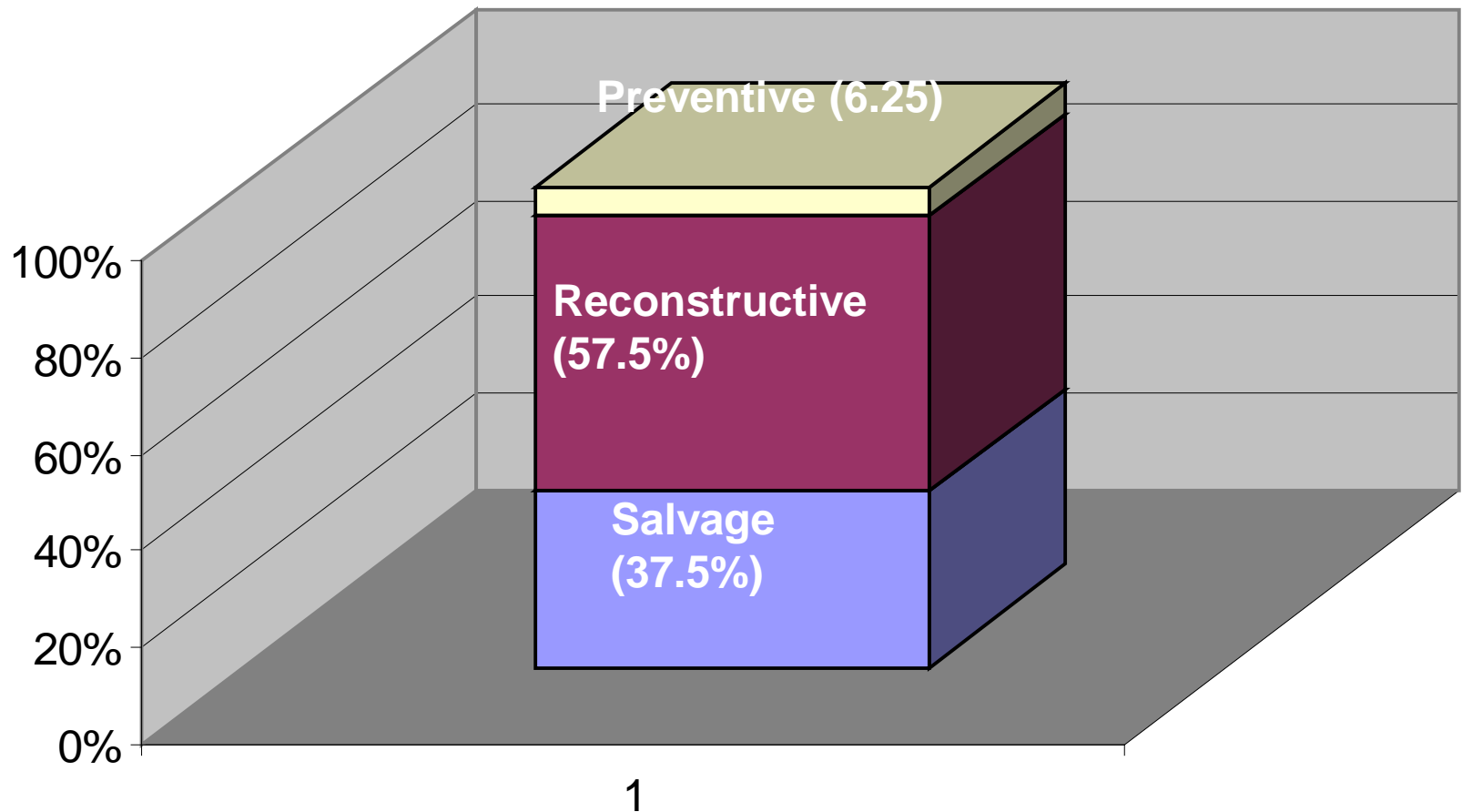


Hip Dislocation

Soft tissue + Salvage surgery 3 weeks 4.5 hours 500-1000 Most likely



Graph showing the total number of preventive, reconstructive and salvage surgical procedures undertaken for hip displacement in children with cerebral palsy during the period from Jan 2008 to July 2009 at BCCH



Advocacy

- CP Association of BC
- PT and OT at Sunny Hill and BCCH
- CDC
- Hospital administration



Advocacy

- Growing **wait list** for Hip surgery \approx 18 months
- **Complaints** to Provincial Quality Care Office
- Gap analysis
- **Business case** made to Hospital administration
- **Support** from Hospital, Health Region, CHBC and Sunny Hill



Child Health BC

*Interprofessional Workshop Series
Implementing Best Practices*

CEREBRAL PALSY & HIP SURVEILLANCE *Working towards creating a provincial standard*

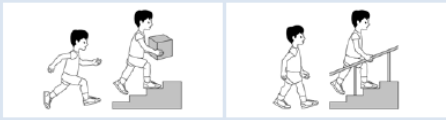




















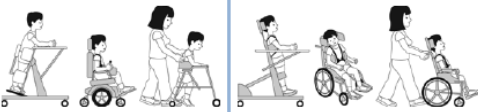
































May 26 & 27, 2011

CEREBRAL PALSY & HIP SURVEILLANCE PART II Implementing the Provincial Consensus Statement


January 26 & 27, 2012




British Columbia Consensus on Hip Surveillance for Children with Cerebral Palsy

Classification	Age in Years										Continue Until Bones Stop Growing (on X-ray)	
	ID	2	2.5	3	3.5	4	4.5	5	5.5	6		
 <p>GMFCS I^{2,3} GMFCS II^{2,3}</p>												
 <p>GMFCS III^{2,3}</p>		 		 		 		 		 	 	Every year Every 2 years
 <p>GMFCS IV^{2,3} GMFCS V^{2,3}</p>		 	 	 	 	 	 	 	 	 	 	Every year Every year
 <p>Group IV Hemiplegic Gait^{4,5}</p>								 		 	 	Every year Every year

Legend: GMFCS: Gross Motor Function Classification System²
 ID: Identification/Diagnosis of cerebral palsy
 Group IV Hemiplegic Gait: Child walks with one hip turned and pulled inward⁴


Clinical Exam


X-Ray

References:

1. BC Hip Surveillance Planning Committee. British Columbia Consensus Statement on Hip Surveillance for Children with Cerebral Palsy. Child Health BC, Vancouver, BC, Canada: 2012.
2. Palisano R et al. Content validity of the expanded and revised Gross Motor Function Classification System. *Dev Med Child Neurol.* 2008;50:744-50.
3. Illustrations Version 2. Reid B, Willoughby K, Harvey A, Graham HK. The Royal Children's Hospital, Melbourne, Australia.
4. Winters TF, Gage JR, Hicks R. Gait patterns in spastic hemiplegia in children and young adults. *J Bone Joint Surg (Am).* 1987;69:437-441.
5. Illustrations printed with permission of IOS Press and The Royal Children's Hospital, Melbourne, Australia. Quick Guide Version 2.0 March 2016

For more information or to make a referral, visit www.childhealthbc.ca/hips or email hips@cw.bc.ca.





The Iceberg Illusion

Success is an iceberg

SUCCESS!

WHAT PEOPLE SEE

Persistence



Failure



Sacrifice



Disappointment



WHAT PEOPLE DON'T SEE

Dedication



Hard work



Good habits



@sylviaedwards



CP Clinic and Hip Surveillance Program



Walt Disney



Stacey Miller, MRSc, BSc(PT)
Child Health BC Hip
Surveillance Program
Coordinator




The Complete Picture

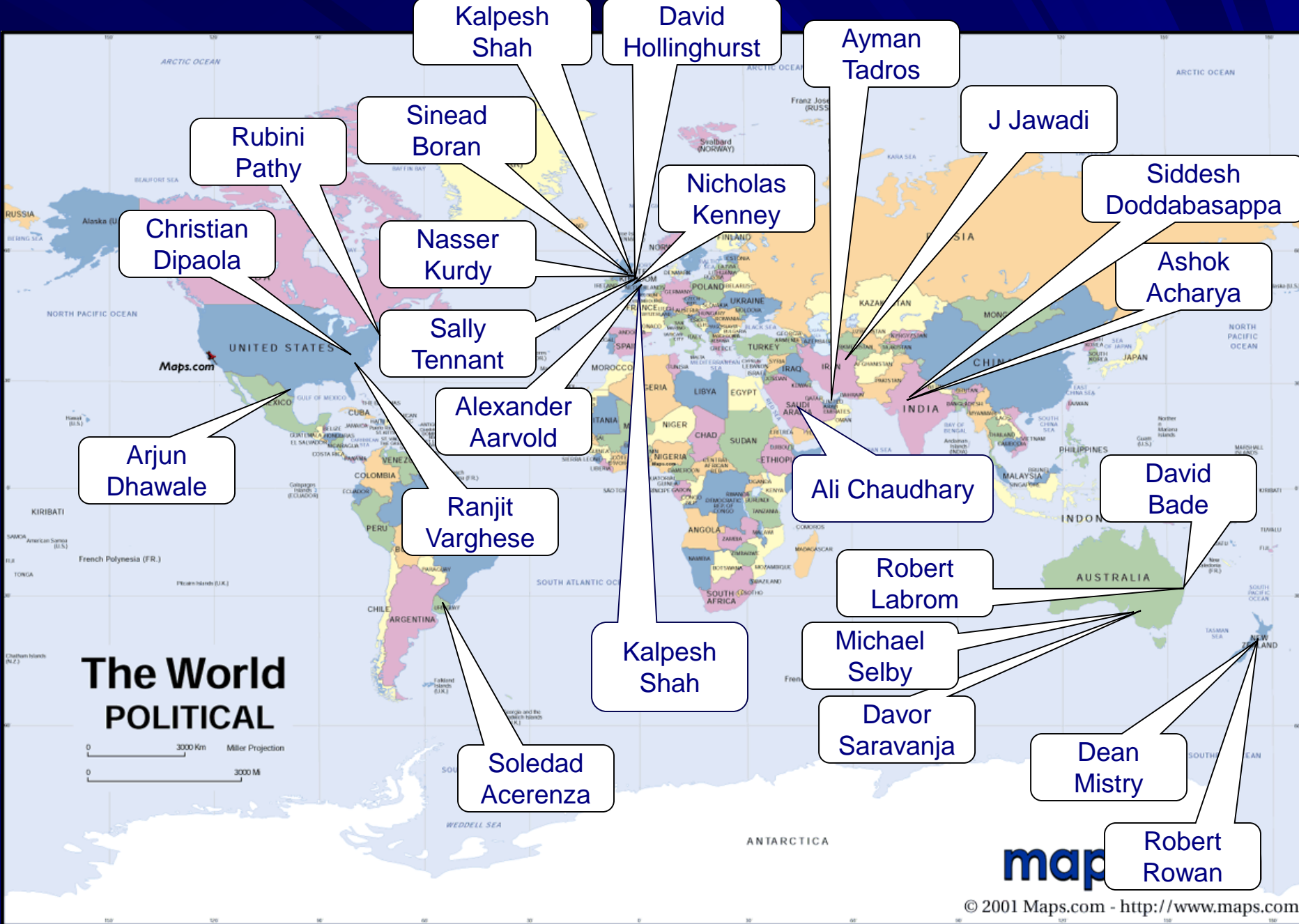
- **Research**
- **Clinical Care**
- **Teaching and Training**

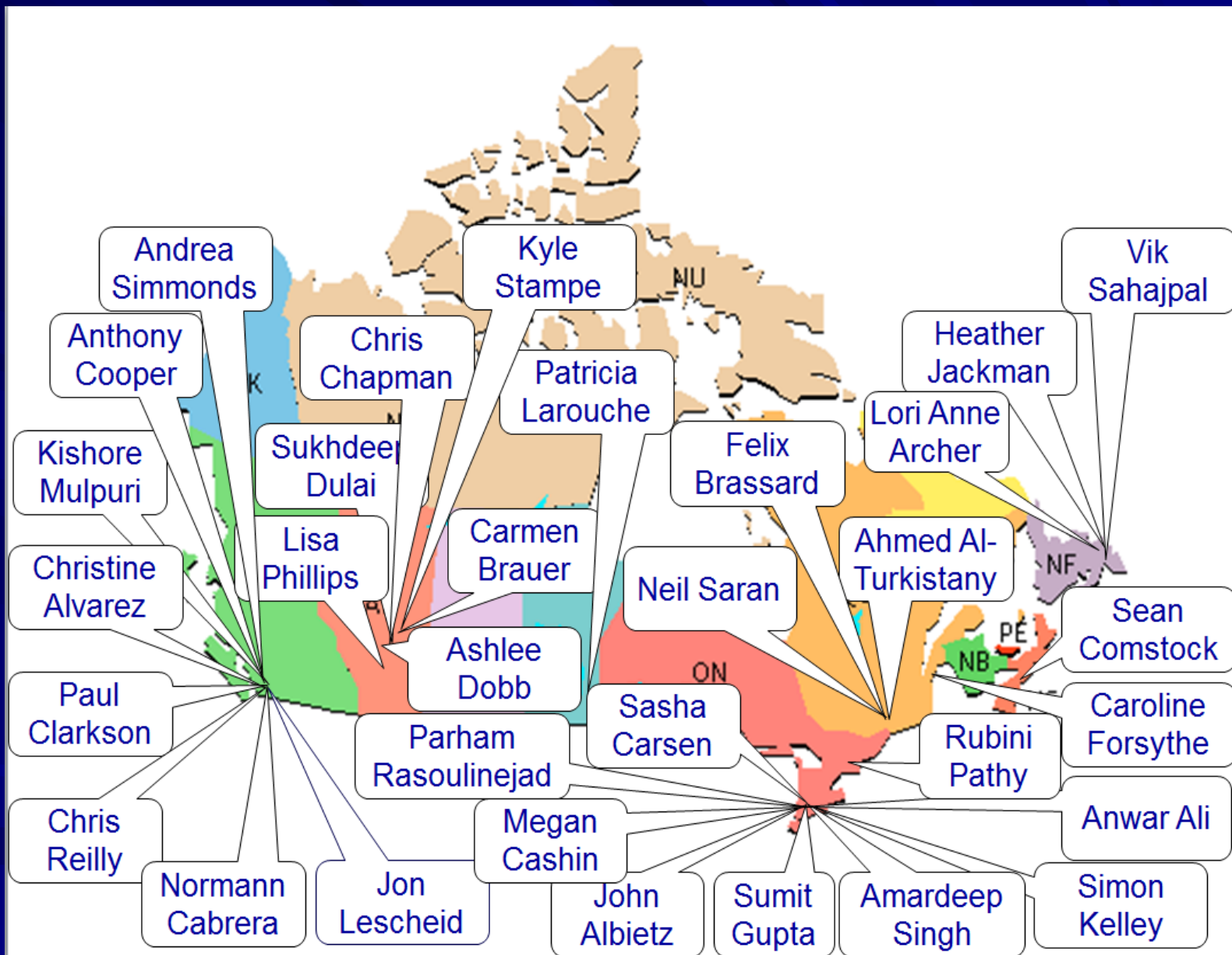


Fellowships

THEN	NOW
2 fellows per year at BCCH	4-5 fellows per year at BCCH (International and Canadian)
Few Canadian fellows	56 Fellows (32 Canadians) from 2004-2018
Mostly international fellows	From 5 different continents
	Working at 28 pediatric hospitals
	6 obtained a Master's degree in research during their fellowship







BCCH Fellowship

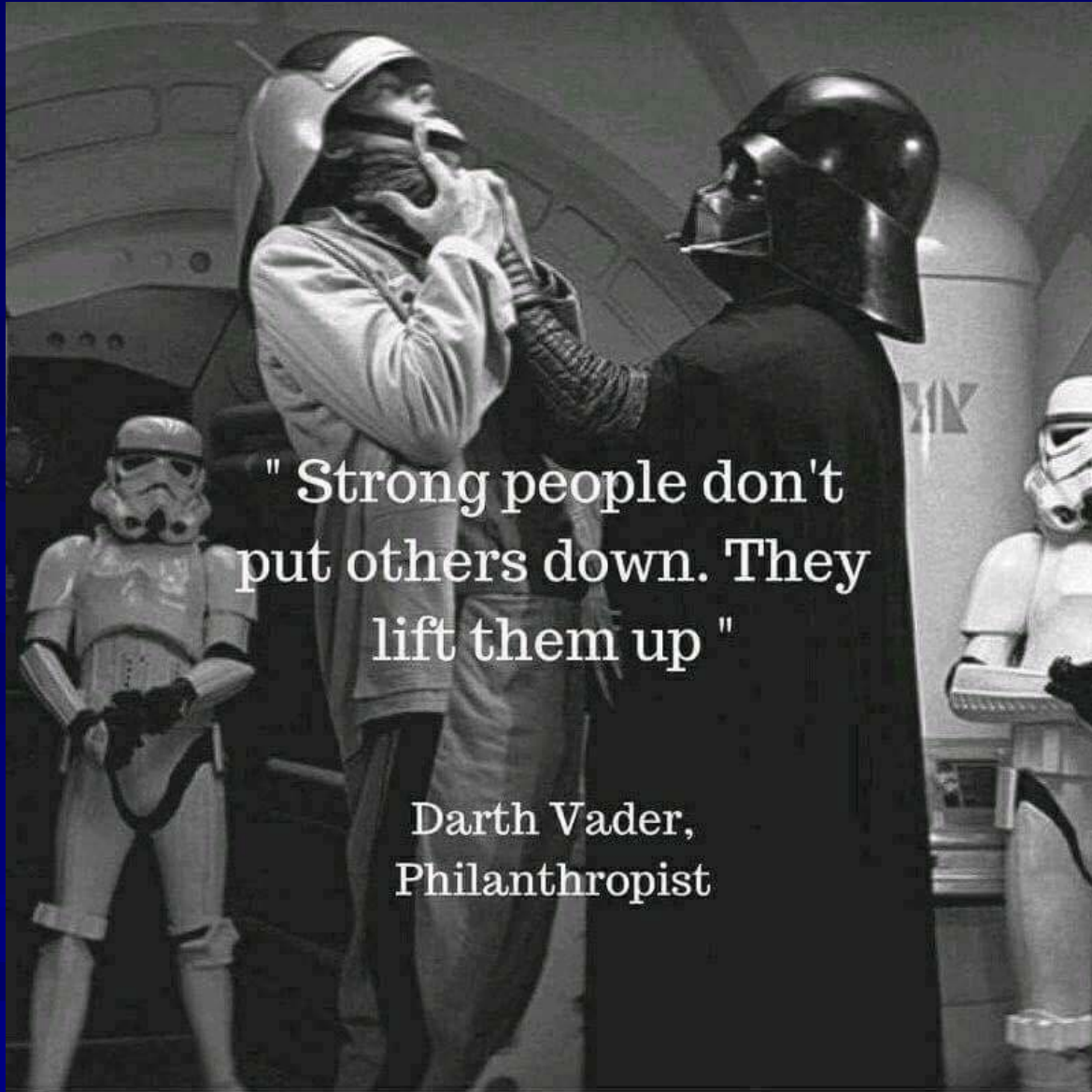
- **153** publications from clinical fellows:
 - During or upon completion of fellowship



Fellow Mentorship: What Worked

- **Adult** education
- Dr. Mulpuri is my dad!!
- **Flexibility:**
 - 10 papers vs. 0 papers
 - Several left fellowships early
- Treat them like **colleagues** from day one
- It's a **privilege** to have them





" Strong people don't
put others down. They
lift them up "

Darth Vader,
Philanthropist



Canadian Paediatric Orthopaedic Group





2015 ABC Travelling Fellowship

Oxford

Norwich

Leicester/Nottingham

Glasgow

London



Edinburgh

Newcastle/
Northumbria



Perth

Melbourne



Sydney

Queenstown

Christchurch

Auckland





Suken Shah
Nemours/duPont



Alpesh Patel
Northwestern Univ



Hue H. Luu
Univ of Chicago



Sanjeev Kakar
Mayo Clinic



Kishore Mulpuri
Univ of British Columbia



Rajiv Gandhi
Univ of Toronto



Robert Brophy
Washington Univ



Start-Ups

- **75%** of venture-backed start-ups **fail**
 - Shikhar Ghosh, Harvard Business School
- **>50% failure rate** of all U.S. companies after **five years**
- **>70% failure rate** after **10 years**
 - Statistic Brain, Startup Business Failure Rate by Industry



Why do Start-Ups Fail?

1. Lack of *focus*
2. **Lack of *motivation, commitment, passion***
3. Too much *pride*
4. Take *advice* from the wrong people
5. Lack of good ***mentorship***
6. Lack of general, domain-specific *business knowledge*
7. Too much *money too soon*



Why do Start-Ups Succeed?

1. *Impact-driven* Founders
2. *Passion, commitment, adaptability*
3. *Patience* and *persistence*
4. **Take home message: DON'T STOP TRYING!**
5. Develop *mentoring* relationships
6. *Leadership*
7. Raise just *enough money* to hit *key milestones*
8. *Balance* technical and business *knowledge*



The Next Start-Ups

- **Research**
- **Clinical Practice**
- **Teaching and Training**



Research

- SLIP Registry:
 - SCFE Longitudinal International Prospective Registry
- PedORTHO
 - Pediatric Orthopaedic Registry of Trauma and Health Outcomes
- Cerebral Palsy (CP) Registry
- Pediatric Femur Fractures
 - AO Foundation
- Hip HOPE Network
 - Hip Health Outcomes in Pediatrics



Clinical Care

- DDH Ultrasound **Point-of-Care** Clinic
 - Integrated clinic:
 - Ultrasound exams in conjunction with orthopaedic surgeon consultations
 - Funded by Medical Allied Staff Engagement Society



Teaching and Training

Education and Global Surgery

- POSI- Joseph Johari fellowship
- POSI- CPOG fellowship
- Manipal University – Ortho Research Excellence Award



Healthcare & Teamwork



Bolt vs. Messi



Leadership

Leadership is not about titles,
positions or flowcharts. It is about
one life influencing another.

John C. Maxwell

quote fancy

Action vs. Position



THE 5 LEVELS OF LEADERSHIP

5 PINNACLE

Respect

People follow because of who you are and what you represent.



4 PEOPLE DEVELOPMENT

Reproduction

People follow because of what you have done for them.



3 PRODUCTION

Results

People follow because of what you have done for the organization.



2 PERMISSION

Relationships

People follow because they want to.



1 POSITION

Rights

People follow because they have to.



What is Success?

Before Leadership = **YOU**

After Leadership = **OTHERS**



Leadership – Opportunities

- Head of Surgery
- Head of Pediatric Orthopaedics
- Assistant Head of Surgery



Leadership – Opportunities

- CPOG – Founding President
- AAOS Guidelines – Workgroup Chair
- IHDI – Research Director
- BC Hip Surveillance Program – Medical Lead
- E2i – Theme Lead



Leadership Mindset

- Have a *lofty goal*, do not worry if you do not achieve it
- Have a *purposeful* and *meaningful career* and *life*
- Know your *strengths* and *weaknesses*
- Everyone has a *different skill set*



What Worked For Me

- Responsibility – Reward – Recognize
- Competition vs. Contribution & Collaboration
- Volunteering
 - POSNA/COA
 - CPOG/Research Institute
 - India

Work Hard and Play Harder



Team Building: Early Lessons

Effective Teamwork in Healthcare: Research and Reality



INVITED ESSAY

Dave Clements, MPA

Acting Director, Knowledge Transfer and Exchange
Canadian Health Services Research Foundation

Mylène Dault, PhD

Senior Program Officer
Management of the Healthcare Workplace Theme
Canadian Health Services Research Foundation

Alicia Priest

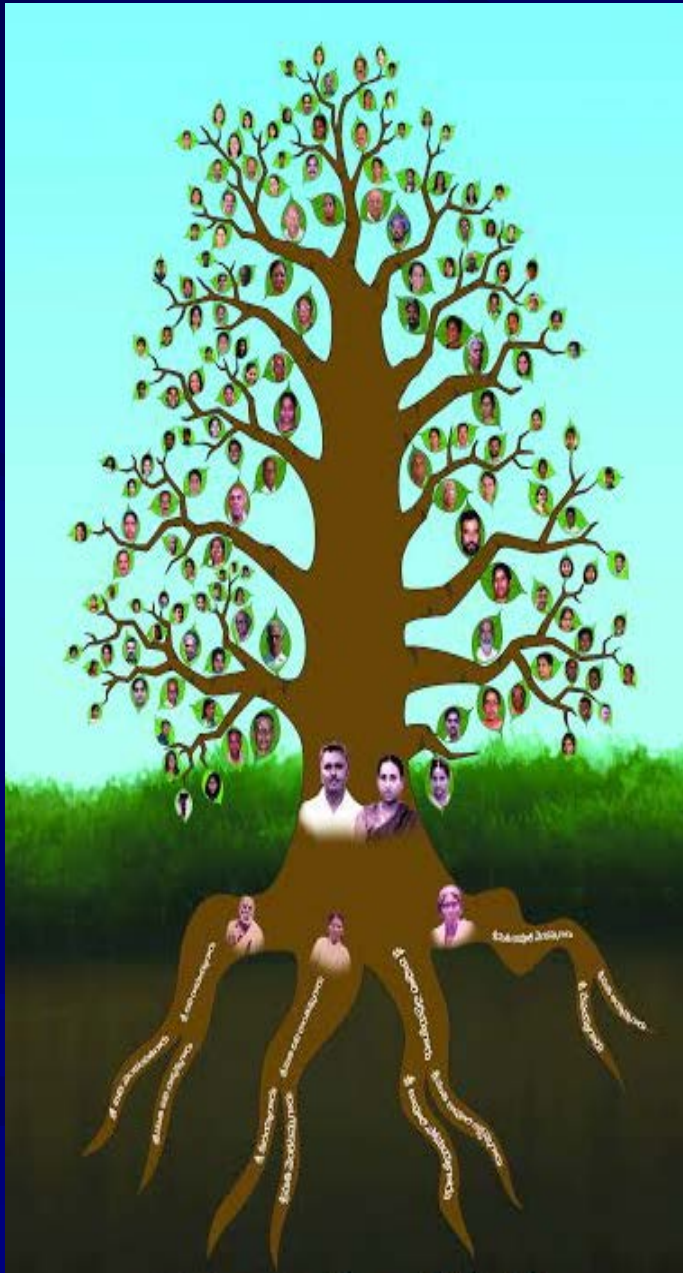
Freelance Medical Writer

ABSTRACT

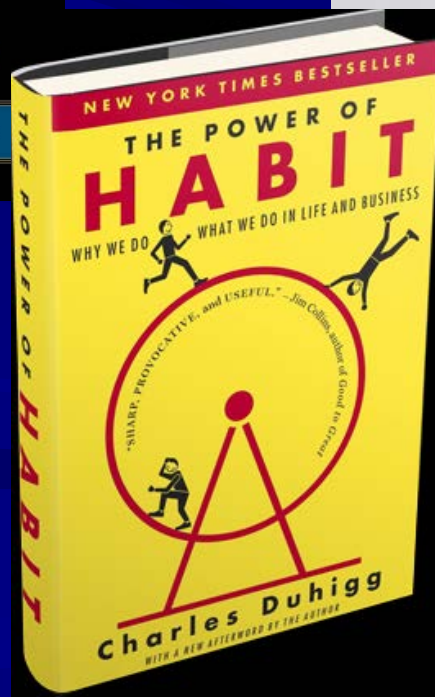
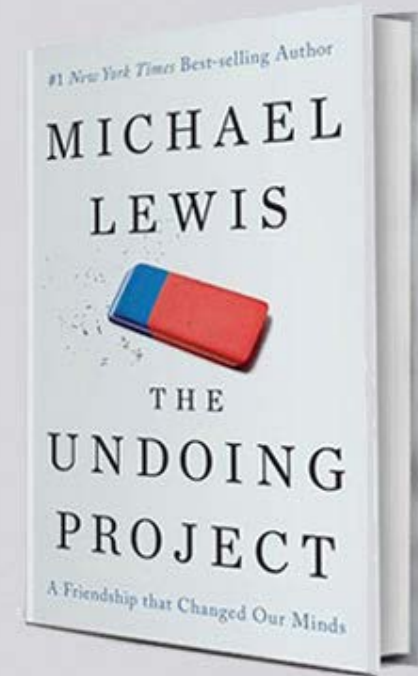
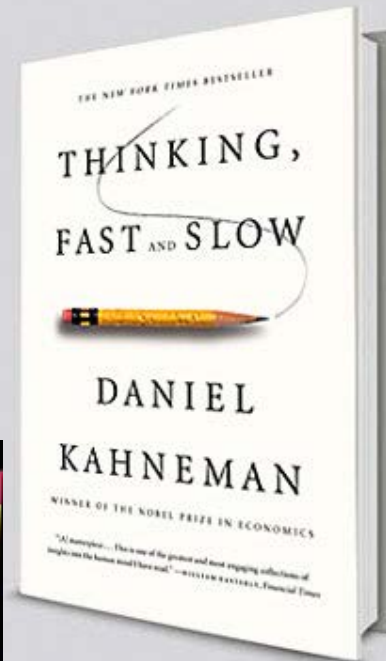
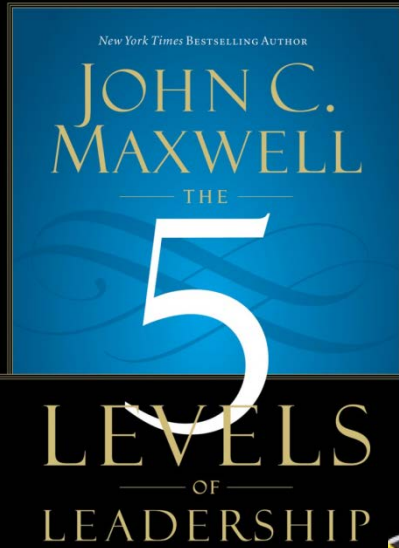
Issues affecting health workplaces range from serious concerns that could affect the immediate physical safety of workers to those that would improve productivity and efficiency, or make an organization a preferred employer. Employers and workers might consider effective teamwork an asset, but for patients it is a prerequisite. This paper reviews the evidence for effective teamwork, primarily that gathered by a research team funded by the Canadian Health Services Research Foundation (CHSRF). We also review the expert opinion provided by a group of 25 researchers and decision makers convened by CHSRF in late 2005 at a forum for discussion about issues related to effective teamwork. Included in the retreat were representatives from professional organizations and occupations as well as areas such as legal liability.







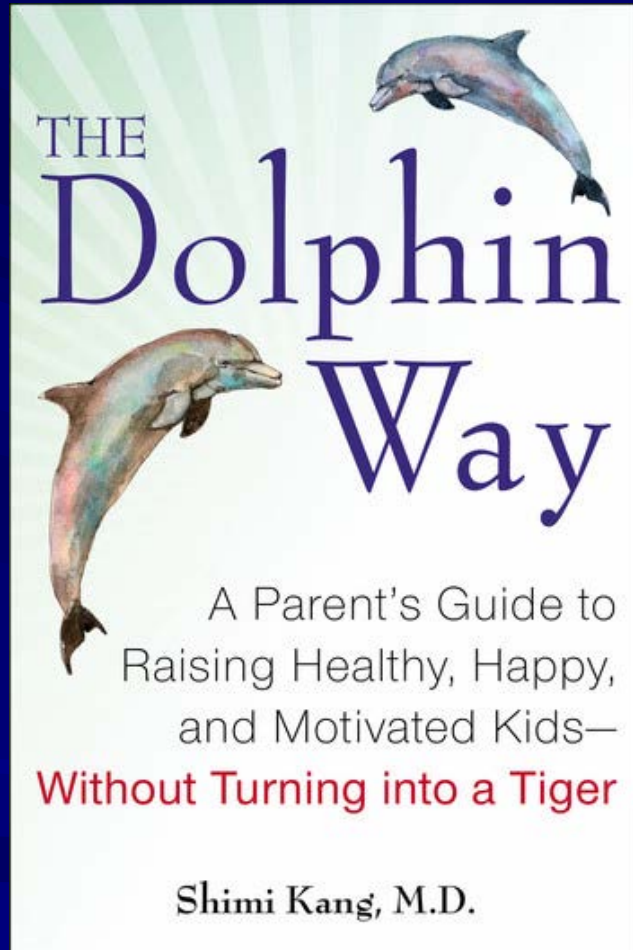
Recommended Reading



5 Levels of Leadership – John C Maxwell
Thinking Fast and Slow – Daniel Kahneman
The Undoing Project – Michael Lewis
The Power of Habit – Charles Duhigg



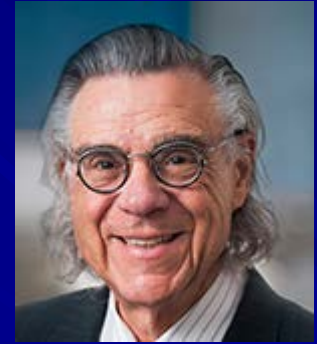
Recommended Reading



The dolphin parenting model is about **guiding** rather than directing, **encouraging** rather than instructing, and **teaching by example**. The dolphin way of life is about emphasizing the **importance of play, exploration, social bonds, altruism, contribution, and family and community values**.

The Dolphin Way, Dr. Shimi K. Kang, M.D.





ORTHOPAEDIC FORUM



THE AMERICAN ORTHOPAEDIC ASSOCIATION

Leadership in Orthopaedics since 1887

The Prevalence and Severity of Burnout Among Academic Orthopaedic Departmental Leaders^{*}

By Khaled J. Saleh, MD, MSc, FRSC(C), James Campbell Quick, MBA, PhD, FAPA, FAIS, Mark Conaway, PhD,
Wesley E. Sime, MPH, PhD, Wayne Martin, MSSW, Shepard Hurwitz, MD, and Thomas A. Einhorn, MD



What You Can Do

- Never be afraid to *take a risk*
- Change takes time: be *persistent* and *patient*
- Have a *lofty goal*, do not worry if you do not achieve it



Taking the Plunge



Prioritize

- Clinician
- Teacher/Trainer
- Researcher
- ??



Prioritize

- **Family**
- Clinician
- Teacher/ trainer
- Researcher



Be a Dolphin

- Be a team member
- Team building is an evolving process
- A team can consist of just 2 people
- The more the merrier



Acquisition

Maintenance

Technical
Expertise

Clinical
Contribution

Research Commitment

Podium Surgeon



Acquisition

Maintenance

Technical Expertise

Clinical Contribution

**Research
Commitment**



Acquisition

Maintenance

Technical
Expertise

Clinical
Contribution

Research
Commitment

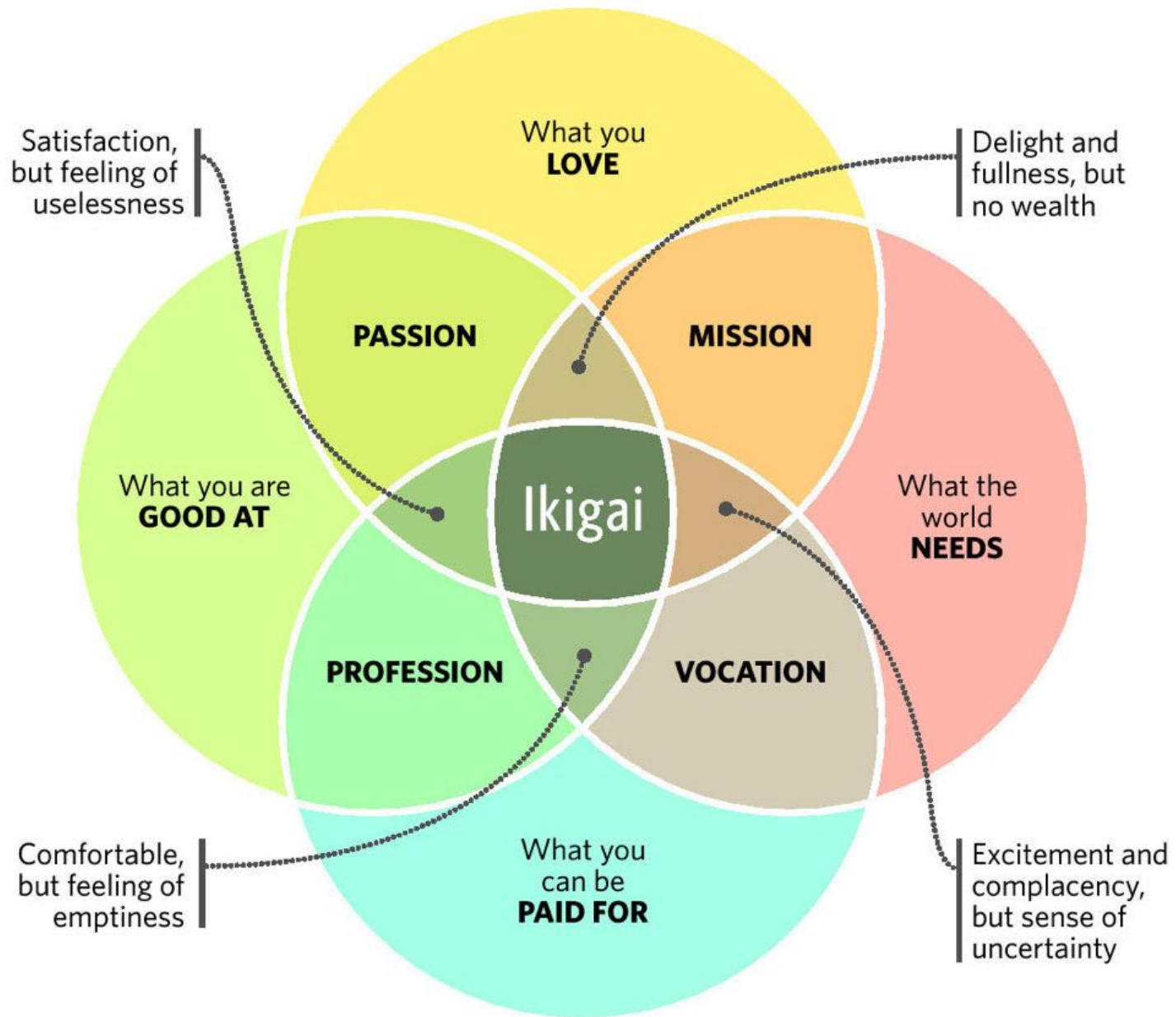


BALANCE



Ikigai

A JAPANESE CONCEPT MEANING "A REASON FOR BEING"



The Research Team

The Bone Health and Mobility Research Team:

- **Emily Schaeffer** – Postdoctoral Research Fellow
- **Eva Habib** – Clinical Research Coordinator
- **Manraj Randhawa** – Co-op Student Research Assistant
- **Nicole Banting** – Co-op Student Research Assistant
- **Roya Yamini** – MASES Project Coordinator

Evidence to Innovation Theme - BCCHR

- **Ian Pike** – E2I Co-lead
- **Dawn Mount** – E2I Research Manager



Acknowledgements

Current BCCH Orthopaedic Clinic and Research Team

- Jennifer Farr
- Salima Damani
- Harpreet Chhina
- Susan Ramiscal
- Rajpreet Chahal
- Judy Wu
- Wendy Krishnaswamy
- Maria Juricic
- Stacey Miller
- Nandy Fajardo
- Sonja Magnuson
- Senzel Ahmadi
- Dolly Khanna
- Olivia Paserin
- Houssam El-Hariri
- Tony Cooper
- Chris Reilly
- Lise Leveille
- Christine Alvarez
- Ravi Ghag
- Firoz Miyanji
- Fahimeh Karimi
- Kyle Stampe
- Chris Chapman
- Felix Brassard
- Shelinah Kabani
- Manjit Bains
- Brenda Whitworth
- Jennifer Dunlop
- Sima Zakani



Acknowledgements

Past BCCH Orthopaedic Clinic and Research Team Members

- Rick Beauchamp
- Tammie Teo
- Russell Bonaguro
- Daphne O'Young
- Keith O'Connor
- Tanya St. John
- Angie Nowak
- Angie Kennedy
- Mary DeVera
- Bronwyn Slobogean
- Janice Andrade
- Jacqueline Eng
- Carly Jones
- Jamil Devsi
- Monica Ho
- Ava Maleki
- Agnes d'Entremont
- Niamul Quader



