GLOBAL LEARNING CENTERS: SUSTAINABLE AND IMPACTFUL RADIOLOGY OUTREACH

Lessons learned from a Global Learning Center

- Evolution in radiology education and outreach from International Visiting program
- The power of conceptual thinking
- The beauty of collaboration and ability to listen
GLOBAL LEARNING CENTERS: SUSTAINABLE AND IMPACTFUL RADIOLOGY OUTREACH

OUTLINE

• Introduction: Why global learning center?
• Planning phase
• Implementation phase
• Online continuing education phase
• Exit phase
• Conclusion
EVOLUTION FROM INTERNATIONAL VISITING PROGRAM TO GLOBAL LEARNING CENTERS:
SUSTAINABLE AND IMPACTFUL RADIOLOGY OUTREACH

• International Visiting Program
  • Speakers selected by RSNA
  • Attended national meetings of resource limited countries
  • Series of lectures to training programs

1986-2019
GLOBAL IMPACT OF INTERNATIONAL VISITING PROGRAM 1986 - 2019
INTERNATIONAL VISITING PROGRAM

Pros:
- Established RSNA outreach efforts
- Large scale global impact of RSNA
- Provided instruction to countries with limited resources

Cons:
- Lack of sustainability
- Impact may be short lived
GLOBAL LEARNING CENTERS:
SUSTAINABLE AND IMPACTFUL RADIOLOGY OUTREACH

Goals of GLC

- Accountability
- Sustainability
- Continuous education and support
- Fostering international collaborations

Re-envisioning the IVP: GLC conceptualized in 2018
GLOBAL LEARNING CENTERS:
SUSTAINABLE AND IMPACTFUL RADIOLOGY OUTREACH

- CONCIEVED 2018
- INTRODUCED 2019
- LAUNCHED VIRTUALLY 2020
  - STELLENBOSCH UNIVERSITY SELECTED AS FIRST GLC HOST
  - AT THE START OF THE GLOBAL COVID-PANDEMIC
GLOBAL LEARNING CENTERS:
SUSTAINABLE AND IMPACTFUL RADIOLOGY OUTREACH

Ecuador
Tanzania
South Africa
IMPLEMENTING A CUSTOMIZED LEARNING PLAN

STELLENBOSCH EXPERIENCE

RSNA Leadership and Staff
- Chair, Committee on International Radiology Education
- Liaison for International Affairs
- Directors of International Affairs
- Directors of Online Education

Stellenbosch University, South Africa
- Program Director, onsite Senior Radiology Faculty
- Subspecialty (cardiothoracic and musculoskeletal imaging) program coordinators
- Onsite radiology faculty

RSNA Radiologist Members
- Program Director, RSNA senior radiologist—appointment for the entire 3 years
- Two teams of cardiothoracic and musculoskeletal radiologists
CHALLENGES AND OPPORTUNITIES

COVID pandemic at the onset of program

Limited internet access, infrastructure and technical equipment

Initially a setback
Forced the program to pivot to an online format
However, the team used this to create relationships, a better understanding of local needs and the development of a meaningful curriculum

Focus on tools that are mobile friendly and accessible to target population: high speed internet, secure network and electronic classroom

GLC team used platforms like WhatsApp and Zoom to enable close and frequent contact between South African and RSNA team

Informal teaching sessions with ability to review cases as well as didactic sessions

Setup and introduced apps enabling distance learning for instance teaching musculoskeletal ultrasound (REACTS)
EXPERIENCE FROM INAUGURAL GLOBAL LEARNING CENTER

PLANNING PHASE

• Inaugural GLC program: Stellenbosch University/Tygerberg Hospital
  Under the leadership of Prof Richard Pitcher
• Specific areas of need within the department were identified
• Curriculum was derived from the perceived greatest areas of need
GLOBAL LEARNING CENTERS:
ONLINE MODULE CREATION

Lecture material selected by RSNA Musculoskeletal and Cardiothoracic radiologists

Lectures curated into an online programme
- Musculoskeletal courses
- Cardiothoracic courses

GLC host team received access to online course material
- Pre-test
- Post-test
<table>
<thead>
<tr>
<th>Year</th>
<th>Course</th>
<th>Topics</th>
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| 2020 3 | Musculoskeletal Course 1 | • My Approach to Imaging of Arthritis  
• Trauma Injuries of the Upper and Lower Extremities  
• Imaging of Spondyloarthropathies  
• Meniscus of the Knee  
• Shoulder Ultrasound (Demonstration) |
| 2020 3 | Cardiothoracic Course 1 | • Interstitial Lung Disease Update  
• Interstitial Lung Disease: Guide for the Perplexed  
• Fleischner Criteria for IPF  
• Brief Overview to Approach and Management  
• Panel |
| 2020 4 | MSK Course 2 | • MRI Of Traumatic Lower Extremity Emergencies  
• Imaging of Shoulder Arthroplasty  
• Acute Muscle Injuries: MRI Protocol, Classification, and Prognosis  
• MRI of Ankle Impingement  
• Musculoskeletal Series: Ultrasound  
• Live Virtual Session: Case-Based Review of MRI Elbow Cases |
| 2020 4 | Cardio Course 2 | • Emerging Concepts in Intramural Hematoma Imaging  
• Aortic Intramural Hematoma: The Prognostic Impact of CT Features  
• CT Angiography of Acute Aortic Syndrome  
• Thoracic CTA  
• image Predictors of Treatment Outcome after Thoracic Aortic Dissection Repair |
| 2021 1 | MSK Course 3 | • Ligamentous Injuries of the Knee: Mechanistic Approach with Emphasis on MR Imaging  
• MRI versus Ultrasound of Muscle: Choosing When and How  
• ASRT@RSNA 2019: Hip Imaging Update  
• Imaging of Muscle Quality: Myosteatosis Revisited  
• MRI of Ankle Instability  
• Live Virtual Session: Case-Based Review of MRI Knee Cases |

2/1/21-4/30/21: 3 month hiatus (COVID)
GLOBAL LEARNING CENTERS: OTHER RESOURCES PROVIDED BY RSNA

- High speed and secure internet connection
- Online classroom for distance-based teaching by RSNA faculty and SU online teaching during the COVID pandemic
- Hardware and software installation for distance-based ultrasound teaching (REACTS)

Stellenbosch University
ONLINE RESOURCES

DISTANCE-BASED ULTRASOUND TEACHING

Interaction between South African colleagues (left) and RSNA team member in Canada at the time (right) via the novel REACTS app.

This app enabled remote control of the ultrasound probe useful in teaching musculoskeletal technique despite being miles apart.
ONLINE RESOURCES

ONLINE CLASSROOM

Online teaching sessions in action at Stellenbosch University
# Global Learning Centers: Onsite Visits Program

<table>
<thead>
<tr>
<th>Subspecialty Team</th>
<th>Mode</th>
<th>Month</th>
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<tr>
<td>MSK abstract work</td>
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<td>May-2022</td>
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<td>MSK</td>
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<td>Jun-2022</td>
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<td>Oct 10-14</td>
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<td>MSK Dr. Vlok in Vancouver</td>
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<tr>
<td>End of Program Recognition Events</td>
<td>virtual, synchronous</td>
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INTRODUCTION

- Readily recognition of those on imaging will
- Decrease patient (and referring physician) anxiety
- Avoid unnecessary further imaging or biopsy
- Appropriate treatment (injection, physiotherapy)

Cardiac CT-Applications
- Cardiac gated CTA is used for:
  - coronary CTA (CAD, anatomy)
  - calcium score assessment

CONGENITAL HEART LESIONS MRI
GLOBAL LEARNING CENTERS: SUSTAINABLE AND IMPACTFUL RADIOLOGY OUTREACH

GLOBAL LEARNING CENTRES
Platform of upliftment

GLOBAL RADIOLOGY INTEGRATION
Colleagues from geographically isolated and underprivileged areas can feel part of the global world of radiology

RELATIONSHIPS
The GLC will be implemented over a 3-year period, but relationships built and friendships created will endure long after the designated term.

CONTINUOUS EDUCATION
Colleagues can stay in contact and continue with online education
1. Collaboration is a partnership where one is reminded of the importance to listen to one another, without which our need at Stellenbosch University/Tygerberg Hospital would not have been met during the COVID pandemic.

2. The board of RSNA Radiologists’ rich history of visionary thinking transformed and led Radiology from its inception to where we are today.

3. The Derek Harwood-Nash fellowship program was integrated into the GLC. Derek Harwood-Nash himself grew up and studied in Southern Africa, earning his MBChB degree with distinction from the University of Cape Town, South Africa.

4. Derek Harwood-Nash was a tireless advocate of radiology outreach and RSNA president who envisioned and played a leading role in global radiology education.

5. The current recipient of the Derek Harwood-Nash fellowship, Dr. Sucari Vlok, coming from South Africa, closes the circle.
THANK YOU

"Alone we can do so little; together we can do so much."  
– Helen Keller