How to Build a Pediatric RD Skills Lab: Best Practices to Help Your Team Enhance Patient Care

Pediatric Nutrition Masterclass

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Learning Objectives

- After this presentation, participants will be able to:
  - Identify potential topics that new and seasoned pediatric RD's should practice annually
  - Identify the needs of your organization
  - Summarize best practices for setting up a skills lab

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What is a Skills Lab?

"Specifically equipped practice rooms functioning
as training facilities offering medical students, physicians
in training and other medical staff alike
a protected, fault-forgiving environment for the practice
of clinical skills prior to their real-life application."

Dr. Bugaj & Dr. Nikendei, University Hospital Heidelberg

Bugaj, TJ, Nikendei, C. Practical Clinical Training in Skills Labs: Theory and Practice. *GMS J Med Educ.* 2016;33(4):Doc63.
Rollins C, et al. Clinical Simulation Learning for Small-Bowel Feeding Tube Insertion. *NCP.* 2018;33(3):185-190.

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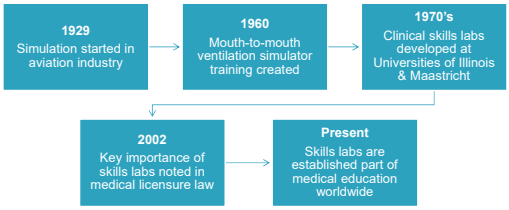
Where It All Began…



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Benefits of a Skills Lab

- Practice without consequences
- Build confidence
- Empower your team!
- Foster analytical and problem-solving skills
- Stay up-to-date with techniques
- Refresh skills
- Cost-effective training
- No patient consent required

Image Credit: Microsoft

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Effectiveness of a Skills Lab

Hassan I, *et al*. Practical course for laparoscopic surgery:

- After the practical course, participants of test group completed the task:
  - Significantly faster
  - Smaller error score
  - With more efficient motion
- Advanced residents demonstrated the best learning profit
  - Novices showed only slight improvement
  - However, all performed faster with less error

Rollins C, *et al*. Simulation Learning for Small-Bowel Feeding Tube Insertion:

- After course, participants reported overall confidence in application of skills
- All participants rated simulation lab as a good or excellent learning experience

Hassan I, et al. Improvement of surgical skills after a three-day practical course for laparoscopic surgery. Swiss Med Wkly. 2006;136:631-636.
Rollins C, et al. Clinical Simulation Learning for Small-Bowel Feeding Tube Insertion. *NCP.* 2018;33(20:185-190.

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What Does Your Team Need?

- ASK!
- Survey your team
- Discuss barriers they face
- Consider gaps identified during QA
- Identify emerging trends/new research
- Find a balance that benefits different experience levels

Bugaj, TJ, Nikendei, C. Practical Clinical Training in Skills Labs: Theory and Practice. *GMS J Med Educ.* 2016;33(4):Doc63.
Image credit: Unsplash

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Pediatric Nutrition Skills to Practice

Obtaining Accurate Anthropometrics	Complex Formula Mixing	Pediatric NFPE	Malnutrition Diagnosis
Alternative Anthropometrics	Enteral Feeding Logistics	IDDSI	Oral Supplement Tasting
Reading X-Rays (Feeding Tubes/Central Access)	Feeding Tube Placement	Parenteral Nutrition Order Writing	Indirect Calorimetry

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How to Build a Skills Lab

What:	Identify topic/staff need Learning methodology
Who:	Identify Subject Matter Experts Target audience
Where:	Physical location/space Learning environment
When:	Sufficient time for adequate training Time/Day conducive to staff participation
How:	See One, Do One & Beyond Tools/supplies
Why:	Begin with the end in mind Determine competency expectation

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What is the Topic?

- Identify desired learning/needs
- Ensure training applicable to all experience levels
- Determine which learning methodology might best teach the topic(s)

Image Credit: Unsplash

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Learning Methodologies

Case-Based

Problem-Based

Simulation

Team-Based

Challa KT, et al. Modern techniques of teaching and learning in medical education: a descriptive literature review. MedEdPublish. 2021;10:18.
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Who is Teaching?

- Who is qualified to teach the topic?
- Identify Subject Matter Experts
- Lean on seasoned RDN's
- Partner with nurse educators, medical staff, pharmacy
- Utilize discharge educators
- Learn from the best!

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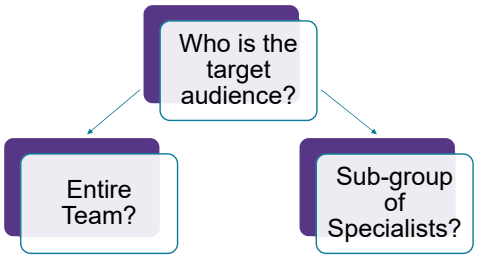
Who is Learning?



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Where…?

- Adequate space
- Room set-up
- Necessary equipment
- Create real life working conditions
- Do a logistics dry run

Image Credit: Caitlin Stewart

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Creating the Ideal Environment

- Convey the attitude that this is a “safe-space”
- Mistakes are expected and welcome
- Craft realistic scenarios
- Provide real-time feedback in teachable moments

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Image Credit: Unsplash

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When…?

- Adequate time start-to-finish
- Least busy day of the week for team
- Multiple timeslots
- Repeat trainings for more complex topics

Practice makes improved performance

Bugaj, TJ, Nikendei, C. Practical Clinical Training in Skills Labs: Theory and Practice. *GMS J Med Educ.* 2016;33(4):Doc63.

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How…?

- See one, Do one, Teach One
- "Deliberate Practice"
- Miller's Pyramid
- Peyton's Four-Step Approach

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Image Credit: Caitlin Stewart

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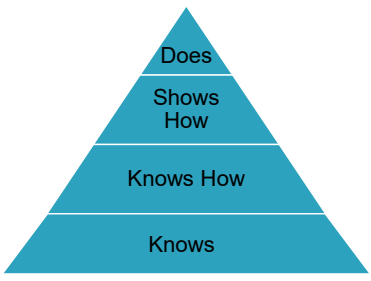
Miller's Learning Pyramid



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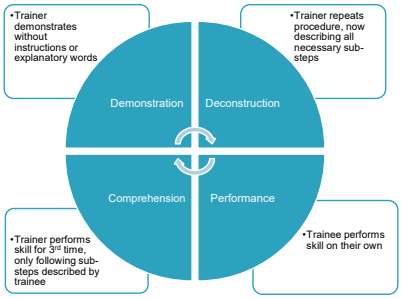
Peyton's Four-Step Approach



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Feedback

- Not Pass or Fail – focus on improvement
- Intensive feedback can be counterproductive in early stages of learning

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Tools

- Save expired formula/products to practice with
- Work with other departments that have training supplies (GI clinic, patient units)
- Utilize hospital simulation labs
- Case study scenarios for each participant
- Handouts with key takeaways

Image Credit: Caitlin Stewart

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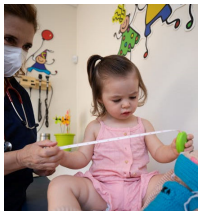
Why…?

- Determine desired competency level
- Some skills require more advanced training
- Is this exposure or individual skill achievement?
- How will this benefit your team AND patient care?



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Competency with SBFT Placement

- 20 RNs trained to place small bowel feeding tubes (SBFT) (*Borgault et al.*)
  - Staff reported needing to complete 10 feeding tube placements before "confidence" was established
  - Authors suggested that at least 3 observations should be performed to assess initial competency
- Maintaining competency important for those who don't perform skill on a regular basis
- Some hospitals in study require placing 2 SBFT per month to maintain competency

Brown B, et al. Developing and Maintaining an RDN-Led Bedside Feeding Tube Placement Program. *NCP*. 2019;34(6):858-868.

Image Credit: Caitlin Stewart

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Best Evidence Medical Education (BEME) Best Practices

- Giving feedback directly during actual simulation
- Repeated simulation-based training
- Scenarios that mimic real-life
- Clearly defined skill performance outcomes goals

Bugaj, TJ, Nikendei, C. Practical Clinical Training in Skills Labs: Theory and Practice. *GMS J Med Educ*. 2016;33(4):Doc63.

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Skills Lab Sample Learning Objectives

- To have seen the implementation of the skill
- To have completed the skill several times under supervision
- To be able to perform a skill independently and routinely

Bugaj, TJ, Nikendei, C. Practical Clinical Training in Skills Labs: Theory and Practice. *GMS J Med Educ*. 2016;33(4):Doc63.

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After the Skills Lab

- Follow-up with team
- Survey participants for pro's/con's
- Offer follow-up Q&A with SME
- Build into training curriculum & annual competency

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Our Experience Building a Skills Lab

What:	Enteral Feeding Logistics Simulation-Based/Problem-Based Learning
Who:	SME's: Discharge educator from DME, Senior RDN's Target Audience: Entire Nutrition Team
Where:	Large Conference Room at Hospital
When:	Afternoon on day with minimal clinics Replaced our usual staff meeting
How:	Miller's Learning Pyramid Tools: Expired formula, feeding tube supplies from GI clinic and Nurse Educators
Why:	Increased Exposure/Understanding of Process/Patient Support

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Our Experience

6 Months: Brainstorm & pre-planning meeting; Identify SME's

1 Month: Logistics planning

2 Weeks: Collect all equipment, formulate practice scenarios

Day Of: Room set-up, final dry-run

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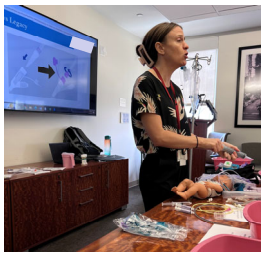
Our Experience



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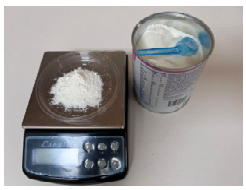
Our Experience



Gram Scale Practice

Measure 2 unpacked, level scoops of formula powder to see how many grams you get

Answer on back

Image Credits: Caitlin Stewart

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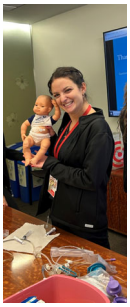

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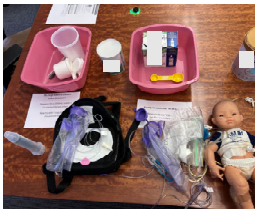
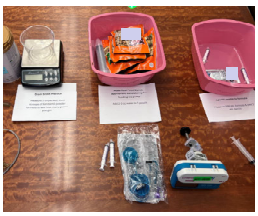
Our Experience





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Our Experience

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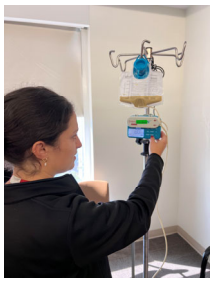
Our Experience



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Our Experience – What Worked?

- Pre-planning meetings with stakeholders
- Reviewed equipment needs several times
- Focused on simulation & problem-solving
- Obtained questions from staff beforehand
- Doing a "dry run" with simulation components
- Designate leaders for each breakout group

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Our Experience - Lessons Learned

- Don't overcommit
- Separate out more complex topics
- Overestimate the amount of time you will need
- Balance didactic with hands-on
- Bring cleaning supplies

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