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National League for Nursing

Modular Skills Trainer

Faculty Guide for Curriculum Integration

Content

Introduction

The teaching and learning of essential nursing skills is critical whether learners are engaged in remote learning or face to face content delivery methods.

The Laerdal Modular Skills Trainer provides faculty and students opportunity to watch, practice, and engage in assessment of skills attainment. This guide is intended to provide some ideas for faculty on how they might make use of the skills trainer to advance students through the curriculum. The trainer allows manipulation of realistic equipment and supplies in combination with screen-based learning that is similar to lab or classroom modalities.

Skills covered with the Modular Skills Trainer:

- Nasogastric tube insertion
- Wound care
- Tracheostomy care
- Central line dressing change
- Ostomy care
- Urinary catheterization & enema
- Injections
- Intravenous catheterization & phlebotomy
- Suppositories (rectal & vaginal)
- Perineal care
- Oxygen therapy
- Nasal swab
- G-tube care

Supply Considerations

For practicing the skills, learners must also have the appropriate supplies available for practice. Since these vary between institutions and vendors, it is suggested to obtain or prepare supply kits to align with the skills trainer.

The User Guide provided by Laerdal Medical describes the assembly and suggested use of the various modules for successful completion of each skill.

Included Parts and Accessories

- Face insert
- Female genitalia
- IV cannulation pad
- Central line insertion site with fasteners
- Wound pad
- Injection pad
- Ostomy site
- Carry bag

Suggestions for Use

The Modular Skills Trainer is intended to be used in conjunction with the training or curriculum already developed at your institution.

The trainer allows demonstrations to be provided either in a socially distanced lab or classroom, or online using current remote teaching methods. Suggested integration methods include either providing students with the Modular Skills Trainer for use throughout their program, or having a supply of trainers that can be checked out for additional self or instructor guided-practice when skills are taught.

The advantage of having the skills trainer at home is that students are able to practice in a comfortable environment. Initially students will use the instructions provided on how to adapt to the size, shape, and other attributes of the device. They can then practice multiple skills as often as needed to maintain competence.

The device is designed to be durable for repeated practice, which is helpful if skills are taught over multiple courses and terms. Clinical faculty may also find it helpful to have a skills trainer available in a clinical site for just-in-time practice prior to the performance of a skill.

The initial teaching and learning of psychomotor skills is only the first step in skills acquisition. When there is a delay of weeks or months between the learning of a skill and the opportunity to repeat it, learners may not remember the process and skills decay occurs. Retention of skill is a problem when skills are taught, practiced, and evaluated early in a course or program.

Gonzalez and Kardong-Edgren (2017) have defined a process of deliberate practice that can mitigate this problem. This process does not mean that the learner only practices in isolation. Rather, they state ***"A large body of research suggests that DP (deliberate practice) in a controlled setting can help identify mediating mechanisms that may produce superior skill performance and retention, such as 'think aloud,' motivation, and performance monitoring, and that accumulated amounts of DP are related to attained levels of performance."*** (p. 11.)

Individual learners may wish to practice alone in a private setting as well, and Oermann, Muckler, and Morgan (2016) believe that ***"Not all practice sessions need to be planned by the teacher. Although experts should guide performance during initial learning to reduce errors, students then can practice on their own."*** (p. 280).

Keeping this in mind, students can practice on their own with the trainer, and have access to the trainer for periodic supervised skills reviews with feedback either in person or using a screen-based method.

Preparing Students for Use

Similar to simulation, students should be directed to perform a skill as if they were in a live patient situation when using the skills trainer. Before faculty expect students to perform the skills, it is recommended that faculty also familiarize themselves with the Modular Skills Trainer. Being familiar with the device, allows faculty to provide any specific tips related to preparing and positioning it for best results. It is also advised to orient students to the trainer and the expectations for its use. Just as prebriefing is recommended prior to simulation, the same practice is useful when incorporating the Modular Skills Trainer. This is done by explaining to students that, while we know the Modular Skills Trainer is not an exact replica of the human body, it is meant to be a helpful training tool to allow for repeated skill practice and retention. Additionally, faculty should provide respectful communication and treatment of the tool as expected in an actual patient situation.

Teaching Strategies

Depending on current isolation precautions and course delivery methods, there are a number of strategies for using the Modular Skills Trainer. Here are some suggestions for use, which can be expanded upon as needed by innovative faculty and students.

- **Skills assessment** - The Modular Skills Trainer can be used for skills assessment in addition to practice. From a student perspective, it is preferable to practice on the skills trainer first, rather than being introduced to the product in a "checkoff" situation. Assessment can then be completed either live in a lab or classroom, or via remote video. Students may also complete peer-to-peer review with consideration given to the competence of the student doing the review.
- **Embedding the skill into a patient case study** – Begin by giving the student an SBAR of a patient case. Prior to beginning the skill, students are asked how they would adapt the skill for this patient, considering age, diagnosis, current condition, family presence, or other details.
- **Exploring concepts within the skill in context such as sterile technique** – Prepare questions for each skill that encourage students to explain their rationale and the knowledge guiding their thinking and critical elements of each skill.
- **Hybrid use of the Modular Skills Trainer with existing simulation scenarios** – This may be done in lab if students are practicing in person, or via remote learning if simulations are being done through video conferencing. A simulated patient/actor can provide the communication portion of the scenario. At the point where a skill is required, students can turn to their own skills trainer and perform the necessary skill without needing to have direct contact with the simulated patient/actor.
- **Student remediation** – If a student has failed to perform a procedure skillfully in lab or clinical, the Modular Skills Trainer can be available for repeated guided practice until the student is comfortable and competent with the skill.
- **Global health considerations** – In situations where faculty or students are traveling to other settings to provide patient care or train health care providers in areas where supplies and equipment are limited, the Modular Skills Trainer is an affordable teaching device. It can be used during the visit and left behind so learners in low resource settings can continue to have access to skill practice.

Integration of Skills into Scenarios

For programs using vSim® for Nursing or other virtual cases, faculty can integrate the Modular Skills Trainer when virtual simulated cases require skill performance. A vSim® for Nursing scenario can be paused at the appropriate point while the student performed the skill on the trainer.

This way, students are engaging both high level cognitive skills as well as technical skills.
The trainer can also be integrated with any scenarios currently being used in clinical coursework.

Patient examples are listed below.

NASOGASTRIC TUBE INSERTION

Students can be presented with a simple case that involves only a short description of a patient and a pre-op order.

***Mrs. Bates** is a 60-year-old woman who is having a colon resection for colon cancer. Her pre-op order states "Insert a 14 french nasogastric tube." Mrs. Bates is apprehensive about the surgery and the procedure. She is alone since no family visits are currently allowed due to isolation policies.

In this case students would be expected to perform the skill and support the patient in the process.

Critical Thinking Questions:

- What is the rationale for placing the nasogastric tube?
- How will you respond if Mrs. Bates asks whether this will be painful?
- What supplies will you need to obtain before beginning the procedure?"

WOUND CARE (OPEN WOUND)

An example of a more complex case requiring skill performance.

***Jonathan McAdams** is an obese 20-year-old man who had surgery 10 days ago for a perforated appendix. He was sent home with supplies and instructions to change the dressing daily. He had been noticing increasing redness and purulent drainage at the incision site on his abdomen and was readmitted yesterday. The wound was opened, drained, and packed with saline dressings. You are to remove his old dressing, clean the wound, and place a new dressing on it.

Considerations for this scenario:

If working remotely with the skills trainer, students would need to first dress the wound, then practice removing that dressing so that they could replace it.

Critical Thinking Questions:

- What risk factors does this patient have for wound infections?
- What other treatments will he likely be receiving for his wound infection?
- What kind of discharge teaching will you do with this patient?

TRACHEOSTOMY CARE

***Finley Clark** is a 5-month old male who was born prematurely at 29 weeks gestation. Finley has been in the NICU since birth and is ventilator-dependent. His tracheostomy was done at age 3 months due to the need for prolonged ventilatory support. Finley is due for tracheostomy care and you will need to change the ties.

Considerations for this scenario:

This case can be made more complex in multiple ways. The patient's family may be present and students will need to teach them the procedure. The patient can require suctioning before or after the procedure is done.

Critical Thinking Questions:

- Is this a clean or a sterile procedure? Share your rationale.
- What challenges does the patient's age present during the procedure?
- What are your main safety concerns?

CENTRAL LINE DRESSING CHANGE

***Faisal Khaled** is a 60-year-old male who is in the ICU post-surgical resection of a liver tumor. He had a central line placed in the left subclavian vein 7 days ago, and is due for a central line dressing change. Mr. Khaled has a transparent dressing over the site. He is alert and communicating with caregivers.

Considerations for this scenario:

Faculty will need to keep in mind that, in order for students to perform a central line dressing change, they will first need to have a central line in place in the skills trainer, with a dressing over the site. Whether this is done by skills faculty prior to the students' practice, or students will be setting up the central line in the patient prior to the dressing change will need to be determined in advance.

Critical Thinking Questions:

- What is the rationale for doing dressing changes every 7 days in this patient? When and why might you change this schedule?
- List the equipment you will need to obtain prior to the procedure.
- What signs would concern you related to a potential infection at this site?
- What steps would you take if you noted any of these signs?
- What steps are you taking to prevent central line–associated bloodstream infections, or CLABSIs?

OSTOMY CARE

***In this scenario a 33-year-old female** is in the surgical unit, two days post-operative after removal of the colon and rectum due to a long history of ulcerative colitis. A colostomy has been created. The learners are expected to assess and evaluate the colostomy site, explain the procedures to the patient using an appropriate communication framework, and provide colostomy care, including emptying the bag (and reapplying if needed). (Laerdal, Nursing Anne Scenarios).

Critical Thinking Questions:

- What concerns do you expect the patient to have regarding her colostomy?
- When is it appropriate to begin to teach the patient how to care for her colostomy?
- What individuals/specialties need to be on this patient's discharge planning team?
- What can she anticipate regarding the progression of her ulcerative colitis?

PERINEAL CARE & URINARY CATHETERIZATION

As noted, any of the skills can be done in combination with already developed simulations. This example refers to one of the NLN ACE-V (Advancing Care Excellence for Veterans) unfolding cases. http://www.nln.org/professional-development-programs/teaching-resources/veterans-ace-v/unfolding-cases/jenny-brown.

***Jenny Brown**, 29 years old, was admitted yesterday in labor. She gave birth approximately 12 hours ago to Samantha, a 7 lb 10 oz healthy female infant with a right-sided unilateral cleft lip and palate. The vaginal birth was uncomplicated. A neonatologist, NICU nurse, and respiratory therapist attended the delivery and provided immediate newborn care. The boyfriend, Eric, has been here all night. He just went to get some breakfast and will be back soon.

In the scenario, Jenny has been up to void several times since delivery. This report can be changed to state that Jenny has been up several times since delivery but has been unable to void. You will need to do perineal care and perform a straight catheterization for Jenny.

Critical Thinking Questions:

- What is your rationale for performing this procedure?
- Why do you suspect this patient is unable to void?
- How will you monitor this patient post catheterization?

ENEMA OR RECTAL SUPPOSITORY

***Mrs. Sanchez** is a 90-year-old resident at a skilled nursing facility. She is not ambulatory and is being fed a soft diet with assistance. Mrs. Sanchez has recently developed problems with constipation. Her last stool was 3 days ago and you are to administer a fleets enema (or a glycerin suppository.)

Critical Thinking Questions

- What will you include in your GI assessment?
- What are the possible contributing factors to her constipation?
- How will you prepare Mrs. Sanchez for this procedure?
- What recommendations can you make to prevent the recurrence of constipation?

INJECTIONS

The skills trainer can be used to **prepare students for a flu vaccine** clinic. They can give repeated intramuscular injections (using air, not fluid, with the task trainer) until they are comfortable with the equipment and the procedure.

Critical Thinking Questions:

- What are the risks of the flu vaccine?
- How will you screen patients prior to the vaccine? Are there people who should not receive it?
- How will you clean your hands and the immediate area after each dose?
- What teaching will you provide regarding follow up to the vaccine?
- What is the effectiveness of the flu vaccine? Is this known at the time of administration?
- What would an allergic reaction to the vaccine look like?
- What will you do if you see signs of an allergic reaction?

IV CATHETER INSERTION

For faculty and students doing the Laerdal vSim® for Nursing cases, psychomotor skills can be incorporated with the screen-based scenario.

***Skyler Hansen** is an 18-year-old male diagnosed with type 1 diabetes 6 months ago. He was brought to the Emergency Department by his friends. The friends report that he started acting "weird" while they were playing basketball. He has not eaten anything for 5 hours. Skyler told them that he felt lightheaded and was going to lie down on the cement. They became nervous and decided to bring him in to the Emergency Department. The patient is drowsy, wakes with stimulus, has slurred speech, is diaphoretic, and is acting irrationally. He has not yet been seen by the provider.

After Skyler's initial assessment, orders are received to obtain IV access. Students could perform this skill on the skills trainer.

Critical Thinking Questions:

- A patient has an IV in their right wrist area and needs a new IV. Discuss your approach to assessing other possible sites for new IV insertion on the patient's right extremity.
- How would you respond if Skyler asked you why he needed to have an IV?
- Discuss what are some complications to the patient when using intravenous peripheral therapy?

OXYGEN THERAPY

*Using the **Henry Williams** case from the NLN ACE-S cases, students can prepare for Henry Williams Simulation 1 http://www.nln.org/professional-development-programs/teaching-resources/ace-s/unfolding-cases/henry-and-ertha-williams

***As the scenario begins, Mr. Williams presents as follows:**

- "Bed is flat. Henry is coughing and short of breath. His nasal cannula has fallen out of his nose
- Vital signs: T 98.2, BP 138/90, P – 112, R - 28;
- Oxygen saturation – 84%
- Henry (wheezing): ***"I am really short of breath and so tired."***

Nurses would be expected to do the following:

- Performing hand hygiene
- Elevate head of bed
- Introduce selves
- Confirm patient ID
- Replace cannula in nares (which will be done with the skills trainer)

Critical Thinking Questions:

- At what liter flow will you start the oxygen administration?
- What other interventions need to be initiated??
- How is his anxiety impacting his respiratory status?
- If after 1 minute the vital signs are: BP 130/88, P 98, oxygen saturation 88%, what action should be initiated?

NASAL SWAB

*Consider that there have been several community cases of a highly contagious and potentially very serious viral respiratory illness. The illness has been fatal for people in several high risk groups. Due to the seriousness of the illness and the potential exposure of hundreds or possibly thousands of community members, the local hospital is running several screening centers. The nurses will be performing nasal swabs to test for the virus.

Critical Thinking Questions:

- What PPE will the nurses need to run this screening center?
- What information should be obtained from the persons being screened?
- What is the role of the public health department in this case?

G-TUBE CARE

***Sylvia Vronsky** is a 45-year-old woman who suffered a stroke one month ago. She has been having difficulties with return of speech and with swallowing. Mrs. Vronsky aspirated during a meal 2 weeks ago and was hospitalized with pneumonia. Her family decided that a gastrostomy tube would be helpful, and it was placed yesterday. The nurses need to demonstrate g-tube care to the family, who will be taking Mrs. Vronsky home tomorrow morning.

Critical Thinking Questions:

Respond to the following questions from the family:

- How often do we need to clean around the tube?
- Do you think her speech and swallowing will come back?
- Will she ever be able to take care of this herself?
- What else will the family need to be taught related to the g-tube?
- What types of gastrostomy feedings can be done at home?
- What do we do if it comes out?

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https://doi.org/10.3928/00220124-20160518-10

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