

HEALTH, ASSISTANCE AND NURSING SIMS NASOGASTRIC TUBE INSERTION AND FEEDING

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FEEDING BY NASOGASTRIC TUBE

Target group: Nursing LPN students Recommended number of participants: 1-2 learners
Simulation time: 105 minutes Debriefing time: 230 minutes

CURRICULAR INFORMATION

LEARNING OBJECTIVES

After completion of the simulation and debriefing session, learners will able to:

- Demonstrate appropriate safety precautions for a patient receiving fluid nutrition by tube administration
- Demonstrate the technical skill of nasogastric insertion
- Explain procedures to the patient using an appropriate communication framework
- Demonstrate ability to administer fluid nutrition via a nasogastric tube
- Assess and document patient intake

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SCENARIO OUTLINE

In this scenario a 65-year-old female is in the surgical/medical unit, being cared for one day post-operative after having a small tumor in the esophagus. She will have a removed. She has a nasogastric tube inserted, place, as she is currently will be receiving only fluid nutrition administered by tube. The learners are expected to take appropriate safety precautions, explain the procedures to the patient using an appropriate communication framework, insert a nasogastric tube, aspirate and assess gastric content, administer fluid nutrition, and document intake and output.

DEBRIEFING

At the end of the When the simulation, is over, it is recommended that a the facilitator-led debriefing will be completed to discuss topics related to the learning objectives. The Event Log in Session Viewer provides suggested debriefing questions. Central discussion points could will be:

- Safety precautions for a patient receiving fluid nutrition by tube
- Technical skill
- Teamwork and communication
- Management of nasogastric feeding Hygiene, asepsis, and decorum
- Communication with the patient

SUGGESTED REFERENCES

Ferrie S, Daniells S, Gagnon S, et al. *Enteral nutrition manual for adults in health care facilities*. Dietitians Association of Australia. 2015. Retrieved from <https://daa.asn.au/wp-content/uploads/2015/04/Enteral-nutrition-manual-January-2015.pdf>

Pearce CB, Duncan HD. *Enteral feeding. Nasogastric, nasojejunal, percutaneous endoscopic gastrostomy, or jejunostomy: Its indications and limitations*. Postgraduate Medical Journal. 78(918):198-204. May 2002. doi: 10.1136/pmj.78.918.198

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SETUP AND PREPARATION

EQUIPMENT

- Blood pressure cuff
- Patient gown
- Patient ID bracelet with name and date of birth
- Patient monitor
- Simulated standard fluid nutrition 1.2 kcal/mL
- Simulated stomach content, 50 mL
- SpO₂ probe
- Hand hygiene station
- Stethoscope
- Tube feeding supplies - per local protocol (nasogastric tube 16 Fr and nasogastric feeding tube 12 Fr are recommended)
- Water for irrigation and hydration
- Universal precautions equipment

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PREPARATION BEFORE SIMULATION

A week before the Sims

- Provide access in Teams to the preparatory student guide.

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1 day before the Sims

- Place 50 mL of simulated stomach content into the stomach reservoir.
- ~~Insert a nasogastric tube into the patient stomach reservoir at a depth of 55 cm.~~
- Dress the simulator in a patient gown and place it in a hospital bed in Fowler's position.
- Attach patient ID bracelet with name and date of birth.
- Print the patient chart from page 4
- Have recording and video on hand

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The day of the Sims

- ~~and hand it out to the~~ patient chart to the learners
- ~~after reading the learner the~~ brief
- ~~Assign roles to them. If you use an electronic patient chart, you can transfer the information to this system.~~

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Post Sims

- Post to TEAMS post SIMS quiz, Sims nasogastric tube insertion post quiz
- Post to TEAMS the recording via Stream

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LEARNER BRIEF

Situation: You are a LPN in a medical unit and the time is now 11:00. You are caring for Mary West, a 65-year-old female who has a small tumor in the esophagus.

Background: The patient had increasing discomfort and dysphagia over the past few weeks due to the tumor in the esophagus.

Assessment: The patient was assessed 3 hours ago, and all vital signs were within normal range. Pain was rated 3 and the patient did not request pain medication. She will have a nasogastric tube inserted, as she will be receiving only fluid nutrition administered by tube.

A fluid nutrition bolus of 340 mL will be administered and 250 mL of water. Residual volume will be minimal both times.

Recommendation: She is due for a fluid nutrition bolus. Please take a few minutes to review her chart and then go see the patient.

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CUSTOMIZATION OF THE SCENARIO

For inspiration, here are some suggestions on how this scenario can be customized:

New Learning Objectives	Changes to the Scenario
Include learning objectives about using therapeutic communication and clinical reasoning skills.	Have the patient express discomfort with the procedure; for example, stomach cramps or nausea. The patient should complain about the discomfort she is experiencing until the learners have taken appropriate actions to alleviate the discomfort, including using therapeutic communication skills.
Include learning objectives about recognizing dehydration and taking appropriate actions.	Have the patient show signs of dehydration; for example, slightly lowered blood pressure and amber-colored urine, and have the patient complain of thirst, fatigue, and dizziness. The intake and output sheet should also be adjusted to indicate dehydration. The patient should complain about these symptoms until the learners take appropriate actions to hydrate the patient.
Include learning objectives about using clinical reasoning skills, including taking appropriate safety measures.	Fill the stomach reservoir with a larger residual volume from the previous feeding (note: the stomach can hold up to 500 mL). The patient should not feel hungry and could be complaining about acid reflux. If the learners do not recognize the larger residual volume or do not take necessary safety precautions, the patient could make more remarks about feeling stuffed.
Include learning objectives about using clinical reasoning skills, including taking appropriate safety measures.	Change the stomach content to look like coffee grounds, to indicate bleeding in the stomach. The patient may or may not show any symptoms. If the learners do not recognize the bleeding and take appropriate safety measures, the patient could ask if everything looks OK and complain about weakness or dizziness.
Include learning objectives about using communication skills and clinical knowledge.	Have the patient be unfamiliar with the procedure, to prompt the learners to provide patient education and answer questions. The patient should ask relevant questions in accordance with the information that the learners provide.

PATIENT CHART

Patient name: Mary West **Gender:** Female **Allergies:** No known allergies **DOB:** 18/10-XXXX

Age: 65 years **Height:** 170 cm (67 in.) **Weight:** 61 kg (134 lb.) **MRN:** 00156330

Diagnosis: ~~Benign~~ tumor in esophagus **Adm date:** Yesterday

Facility: ~~Surgical~~medical unit **Advance directive:** No **Isolation precautions:** None

Past Medical History

Increasing discomfort and trouble swallowing over the past few weeks due to a ~~benign~~ tumor in the esophagus. ~~One day post-operative after having a small tumor in the esophagus surgically removed.~~
Appendectomy 15 years ago.

Notes

Date/Time	
Yesterday	Patient transferred to unit from PACU. Nasogastric feeding tube in place. Tube depth: 55 cm. Vital signs obtained /R/L/P/N
Today, 08:00	Patient rates pain 3, patient does not request pain medication. Residual volume of 40 mL returned. Fluid nutrition bolus (340 mL) administered via tube. Tube depth: 55 cm. Hydration status OK /RN
Today, 09:00	Fluid bolus (250 mL) administered via tube. Residual volume of 110 mL returned. Tube depth: 55 cm. Hydration status OK /RN

Provider Orders

Activity: Out of bed as tolerated

Insert NG tube

Diet: Fluid nutrition via nasogastric tube administration:

Administer ~~100~~340 mL standard fluid nutrition 1.5 kcal/mL over 30 minutes, 5 times a day evenly dispersed, during waking hours.

Administer 250 mL water, 5 times a day evenly dispersed, during waking hours.

Vital signs every 4 hours

Asses hydration status every 4 hours

Record intake and output

Medical Administration Record

Date/Time	

Vital Signs

Date/Time	
Today, 08:00	BP: 135/85 mmHg HR: 85/min RR: 15/min SpO₂: 99% Temp: 37.0°C (98.6°F)
	BP: HR: RR: SpO₂: Temp:

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INTAKE & OUTPUT

Patient name: Mary West **Gender:** Female **Allergies:** No known allergies **DOB:** 18/10-XXXX

Age: 65 years **Height:** 170 cm (67 in.) **Weight:** 61 kg (134 lb.) **MRN:** 00156330

Diagnosis: ~~Benign~~ tumor in esophagus **Adm date:** Yesterday

Facility: ~~Surgical~~ medical unit **Advanced directive:** No **Isolation precautions:** None

Notes:

Time/Date	Intake					Output				
	Oral	NG	IV	IVPB	Other	Urine	Emesis	NG	Drains type	Other
23-07	340 mL 250 mL	340 mL 250 mL				270 mL				
Shift total	590 mL	590 mL				270 mL				
Time/Date	Oral	NG	IV	IVPB	Other	Urine	Emesis	NG	Drains type	Other
07-15		340 mL 250 mL				250 mL				350 mL
Shift total										
Time/Date	Oral	NG	IV	IVPB	Other	Urine	Emesis	NG	Drains type	Other
15-23										
Shift total										

This is a worksheet to be used at the bedside to keep track of each intake and output. The totals will then be recorded on the 24 Hour Fluid Balance Sheet

Fluid measurements: 1 cc = 1 mL • 1 ounce = 30 mL • 8 ounces = 240 mL • 1 cup = 8 ounces = 240 mL • 4 cups = 32 ounces = 1 quart or 1 liter = 1000 mL