

HOTT Activities

Mock Accident

The purpose of this lesson is to expose students to the wide variety of health occupations that are available in the healthcare field.

The following can be used as a guide for the instruction of this lesson. Feel free to use your own words and add your own personal experience.

In your instructor packet you should have:

1. Car accident poster, ambulance picture and a listing of the departments that will be covered in this lesson. (attached to the end of this guide)
2. 21 bags with a prop that will correspond to each occupation.
3. Corresponding PowerPoint is located at <http://healthcareers.sd.gov/CHNHOTTFutures.aspx>

Option One: No Healthcare providers are present

1. Room set-up: In either the classroom or gymnasium set up seven "departments": Emergency Room, Health Information, Surgery, Nursing Unit, Ancillary Services, Rehabilitation Services, Discharge Care.

At each of the departments place the following: a sign/poster identifying the department in an easy-to-see spot and the respective department bags.

2. Divide the students among each of the departments. There are 21 healthcare occupations identified for this activity. If there are not a sufficient number of students, students can play the role of 2 or more healthcare workers as needed. If there are more than 21 students, students may double-up. Before students go to departments, give each a name tag (located at <http://healthcareers.sd.gov/CHNHOTTFutures.aspx>) of the healthcare worker they are representing. When they enter the room, have them go to the department in which they think they work. They look at the name of healthcare occupation on the department bags located in the department. If their occupation is not on one of the department bags, they need to go to another department, and repeat until they locate the department in which they work. Once students find their department, students are to stay there and NOT open the department bags until told to.
3. The teacher starts the script (attached). As the accident victim visits each healthcare profession, the student representing the healthcare profession reads the script with their healthcare profession.

Lesson Plan

Option Two: One or more healthcare providers are present

The same as Option One except have healthcare providers stand with students representing their profession. Once the student reads their script, the healthcare provider can add more information. The healthcare provider can also lead the various health-related activities.

Option Three: Go to a healthcare facility (hospital or clinic)

A healthcare provider leads the students through the facility following the basic outline as the script as appropriate. When possible, healthcare providers in each department speak about their profession. Modify as needed. When feasible, have healthcare providers interject why they practice in SD.

SCRIPT

Narrator: Teacher, student, healthcare provider

Victim: Large doll, student volunteer or other volunteer

NARRATOR: Hello, 911, there has been an accident at (address of school or classroom). Yes, there is a seriously injured person. The ambulance with EMTs has arrived.

Department 1-Emergency Room

Emergency Medical Technicians (EMT) – Pen Light

STUDENT: I am usually the first to arrive at the scene of an accident. The first thing I do is assess the patient. I check for injuries and vital signs such as breathing rate, heart rate, and how the pupils react to light.

A person's eyes are normally sensitive to the amount of light that enters through the pupils. Pupil size may vary for several reasons (e.g. head injury or drug overdose). Ordinarily when too much light enters the eye, the pupil constricts (shrinks) to limit the amount of light that is allowed to enter. Conversely, in darkness, the pupil dilates (widens) to allow more light to enter the eye. The normal size of pupils in room light is 5 to 6 mm (note the pupil gauge on the pen light). When the room is dark normal pupil size would be 7 to 8 mm.

NARRATOR: At each of your departments, there is a pen light. Working in pairs, one person shines the light into the eyes of your partner. Before you shine the light in the eyes of our partner and I shut off the lights, notice the size of the pupil with regular lights on. Now I will shut the lights off. Wait a few seconds for the eyes to adjust. Now look at the size of the pupil. What do you notice? Now turn on the pen light by pressing in on the clip and shine the light of the pen light into the eyes of your partner. What do you notice? (Repeat with partner)

When done with the pupil activity, turn lights on.

NARRATOR: The EMTs take the accident victim to the hospital emergency room. Once there, the doctor decides that some blood needs to be drawn by the phlebotomist.

Phlebotomists– Blood Tubes

STUDENT: As a phlebotomist, I draw blood from the accident victim. I will draw blood two different ways. The first way I use is to prick the finger and get a small sample of blood in a really skinny tube. The second way I use is to wrap a tourniquet around the upper arm so a blood vein will pop out, making it easier to get blood. Then I stick a needle in the vein and draw blood. *(Take out blood tubes from department bag and hold up for all to see.)* Blood tubes are used to collect specimens of blood from patients. The tube tops are color coded to indicate if an additive is in the tube. I then take the specimens to the Medical Lab Scientist. *(Give the tubes to the Medical Lab Scientist.)*

Medical Lab Scientist – Blood Tubes

STUDENT: Once I receive the specimens, I prepare them to be tested for drugs or clotting ability. The special additives that are in some of the tubes help to identify drugs, microorganisms, or clotting ability. Sometimes I use biomedical instruments such as microscopes, cell counters and other sophisticated laboratory equipment. As a medical lab technician, I work under the medical/clinic lab technologist. *(Look at the medical lab technologist and say)* I am happy to report that the accident victim does not have any drugs in his system, microorganisms, or clotting problems.

Medical/Clinic Lab Technologist – Kova Slide

STUDENT: In addition to examining blood, I also perform microscopic examination of urine and other body fluids. *(Take out Kova slide from department bag and hold up for all to see.)* To do this, a Kova slide is used. This is done to determine the types of cells that are present. If an abnormality is found, the physician can use that information to diagnose the patient. I see that the doctor also wants our accident victim to have an x-ray. The doctor suspects there may be a broken bone or two.

Radiologic Technicians – X-Ray

STUDENT: I am a radiologic technician. I take x-rays and other images of patients. *(Take out x-ray from department bag and hold up for all to see.)* The x-ray film is used to record the image of the patient's bones and internal structures. The physician uses the film to diagnose the patient and then recommends treatment. Many hospitals and clinics now use digital imagery instead of x-rays. Yep, just as the doctor suspected, our accident victim has broken bones. Well, I guess I will take the patient to the health information area where important information about the patient is taken and recorded.

Department 2-Health Information

Health Information Technicians – Patient Record

STUDENT: Every time health care personnel treat a patient, they record what they observed and how the patient was treated medically. This record includes information the patient provides concerning his or her symptoms and medical history, as well as the results of examinations, reports of X-rays and laboratory tests, diagnoses, and treatment plans.

The Health Information Manager manages all this information. As the health information technician, I help the health information manager to keep this information organized, accurate, and private.

(Take out chart from department bag and hold up for all to see.) This graphic sheet (chart) is used to record the patient's vital signs (temperature, pulse, respiration & blood pressure). This is valuable information for the nurses and physicians to track the progress of the patient. The physician order sheet is used to record the treatment orders for the patient. Patient records are now being done on laptop computers and in time the paper records will no longer be needed. (Look at medical transcriptionist and say) A medical transcriptionist also helps to keep the patients information accurate.

Medical Transcriptionists – Head Phones

STUDENT: Doctors do not always write down their observations and discussions with their patients. Sometimes they talk into a machine that records what they are saying. (Take out head phones from department bag and hold up for all to see.) As a transcriptionist, I use head phones to listen to dictation and then key in the information to the patient's record. Good keyboarding skills as well as an understanding of medical terminology is essential.

Medical Assistants – Blood Pressure Cuff

STUDENT: I'm a medical assistant. There many different types of medical assistants, but they usually perform routine administrative and clinical tasks to keep the offices and clinics of physicians, podiatrists, chiropractors, and optometrists running smoothly. One of the tools I get to use is a blood pressure cuff. (Take out blood pressure cuff from department bag and hold up for all to see.) The blood pressure cuff is a tool needed to measure the pressure of the blood in the arteries of the body. The pressure is measured in mm of mercury pressure. Normal adult pressure is 120/80. The higher number (systolic) is the pressure in the arteries when the heart is beating (constricting) and the lower number (diastolic) is when the heart is relaxed. Being a medical assistant provides me with good experience in the medical field, especially since I am considering doing something further-involved in the medical field. Well, now that I have taken the accident victim's blood pressure, I will take him/her to the nurse anesthetist in the surgery department

Department 3-Surgery

Nurse Anesthetist –Nasal Cannula

STUDENT: As the nurse anesthetist, I provide anesthesia to a patient. I also am responsible for monitoring vital signs and supplying necessary medications. (Take out nasal cannula from department bag and hold up for all to see.) The nasal cannula is used to supply oxygen to the patient when needed. OK surgeon, the patient is ready for you to set the broken bone.

Surgeon – Surgical Mask

STUDENT: As the surgeon, I have to take great care to keep all germs from getting into the sterile field. I thoroughly wash my hands before putting on gloves. (Take out surgical mask from department bag and hold up for all to see.) I wear the surgical mask to prevent the germs in my respiratory tract from entering the surgical incision or contaminating the surgical instruments. I rely heavily on the surgical technician to help me have a successful surgery.

Surgical Technicians – Sponge & Sponge Forceps

STUDENT: During the surgery, as the surgical technician, I will use the sponge (gauze) to absorb the blood at the surgical site. (Take out forceps and sponge from department bag and hold up for all to

see.) The forceps are used to hold the sponge and move sponges. The “sponge count” needs to be done before and after the surgery to be certain all sponges are accounted for and not left in the patient. Now that the bone has been set, and the cast is on, the patient is taken to his room where nurses will care for him.

Department 4-Nursing Unit

Registered Nurse – Stethoscope

STUDENT: As a registered nurse, I collaborate with all members of the healthcare team to provide the care needed for our patient. I provide focused and highly personalized care.

I also serve as an advocate for patients, families, and communities. I develop and manage nursing care plans. I will instruct our patient and his/her family in the proper care of her broken bone. The nursing field has a wide range of career opportunities, ranging from entry-level practitioner to doctoral-level researcher. Now we will get the chance to use a real stethoscope.

TEACHER/HEALTHCARE WORKER:

Students will listen to their own hearts. The alcohol wipes are used to clean the earpieces before each student use. Ear pieces should be placed so they are angled towards the back of the head.

The stethoscope diaphragm (larger end) should be placed just to the right of the sternum over the heart. Listen for a two part sound that health care workers call “lub” and “dub.” The first sound is the slapping shut of the arterial valves and the second sound is that of the ventricular valves. If you are unable to hear the sounds check the following:

- Place the stethoscope next to your skin by going under your shirt
- Lean forward so the heart is closer to the chest wall
- Check the stethoscope head – has it been turned? - test by tapping the diaphragm

Stethoscopes are used to listen to body sounds of the heart, lungs, intestine and a fetal heart beat of a pregnant woman.

Licensed Practical Nurse – Syringe & Wound Dressing Supplies

STUDENT: As a licensed practical nurse, I assist the nurse with his or her duties. One of things I do is administer medications. Our patient is in a lot of pain, so I am going to give him/her some pain medication. (*Take out syringe from department bag and hold up for all to see.*) A syringe is used to draw up a precise amount of medication to be injected into the patient. Medications can be injected into the subcutaneous layer (fat), muscle or directly into the veins. I see our patient has a few major wounds. I will help clean and dress the wounds to help the patient heal. Supplies should be kept clean and free from germs. Both the nurse and I depend on a nursing aide to assist us in patient care. Our patient needs a bath; I'll let the nursing aide know.

Nursing Aide – Bathing & Hygiene Supplies

STUDENT: I play a very important role in the care of our patient. As a nursing aide, I will measure temperature, pulse rate, respiration and blood pressure, help patients with their exercises and assist them in their daily living needs. Hey, let's take our pulse! Everyone put your index and middle fingers together and place them on the outside edge of your wrist. Let's count our pulse for one minute. *(Provide 1 minute for students to take their pulses)* Good hygiene is important in all settings, especially in healthcare settings such as a hospital or nursing home. Bathing reduces the spread of germs causing disease and can also make the patient feel better. I do not administer medications; only the nurse can do that. I see that the physician has prescribed some medications for our accident victim. Let's go to ancillary services to learn more about pharmacists.

Department 5-Ancillary Services

Pharmacists – Prescription Bottle & Medicine Cup

STUDENT: Before I share with you what I do, I want to talk to you a bit about ancillary services. People who work in ancillary services help doctors, dentists, and nurses care for their patients. They provide specific services the patient may require. For example, a physical therapist may specialize in assisting post-stroke patients recover their physical abilities. A nutritionist can help a diabetic patient learn to eat foods that are suited to his disease.

I help the doctor by making sure the patient receives the right medication in the right dosage. The doctor prescribed a couple of medications for our accident victim to help him/her heal. *(Take out prescription bottle/bar and medicine cup from department bag and hold up for all to see.)* I fill the prescription according to the doctor's order; however, if I have a question, I call the doctor to make sure the prescription is filled correctly. When I give the prescriptions to the patient, I talk to him or her about how and when to properly take the medicine. It is very important for the patient to follow the directions to avoid overdosing or mixing wrong medicines.

Cardiovascular Technicians – EKG tracing & Caliper

STUDENT: I am a cardiovascular technician. I help the doctor to make sure our patient's heart is working like it is supposed to work. EKG is an abbreviation for Electrocardiogram. *(Take out EKG tracing and caliper from department bag and hold up for all to see.)* The tracing is a record of the electrical activity in the heart. As the technician I use the caliper to measure the distance between the waves in the record to determine if there is an abnormality in the patient's heart beat. Thankfully our accident victim's heart has no abnormality!! Now it is time for our accident victim to learn of the type of diet he/she should follow.

Dietitians – Food Guide Pyramid & TPN Bag

STUDENT: As a dietitian, I work with the doctor to make sure the patient is eating the right foods. *(Take-out food guide pyramid and TPN from department bag and hold up for all to see.)* The food guide pyramid is the guide I use to recommend a diet for a patient. Our accident victim just learned that he/she is diabetic – that is why he/she passed out and had the accident. His/her blood-sugar level was extremely low. I am recommending a special diet; specific foods he/she should not eat, and foods he/she should eat. I also will educate him/her on how to read labels so he/she knows he/she is getting the right nutrients. Precise measuring of ingredients with a measuring spoon is an important part of nutrition. TPN bags are used to provide nutrition when a patient cannot eat food. Now that we

have our accident victim's diet under control, I will take him/him to another ancillary service, rehabilitation.

Department 6-Rehabilitation Services

Physical Therapist Assistants – Range of Motion Exercises & Therapy Band

As part of the recovery process, our accident victim will have to work with me, the physical therapist assistant. *(Take out range of motion exercises and therapy band from department bag and hold up for all to see.)* I will help our accident victim get back his full range of motion in the movement of his arm. Range of Motion Exercises are recommended for patients recovering from accidents and surgeries. The therapy band is used to add resistance to the exercises and strengthen the patient. Although our accident victim does not need occupational therapy, we are going to stop by there so you can learn a bit about occupational therapy.

Occupational Therapists & Assistants – Adaptive Spoon

STUDENT: Occupational Therapists (OTs) assist clients in performing activities of all types, ranging from using a computer to caring for daily needs such as dressing, cooking, eating, and driving. Services typically include customized treatment programs to improve one's ability to perform daily activities. *(Take out adaptive spoon from department bag and hold up for all to see.)* This adaptive spoon is used by occupational therapy to assist the patient with learning to eat properly. This type of spoon is used mainly with children.

Now, let's check in on how well our patient is breathing.

Respiratory Therapist – Peak Flow Meter

STUDENT: Since our accident victim had to have surgery and was under anesthesia, we have to make sure he/she does breathing exercises. As the respiratory therapist, I visit him/her every day he/she is in the hospital to do breathing exercises so he/she will not get pneumonia. *(Take out peak flow meter from department bag and hold up for all to see.)* I use a peak flow meter. A peak flow meter measures peak expiratory flow (blowing out) in order to monitor respiratory conditions such as asthma. Normal flow for a child between five foot and five foot five inches would be between 400 – 450 L/min. A measurement less than that would be an indication the child would have a restricted airway. Well, it appears our accident victim is ready to go home!!

Department 7-Discharge Care

Medical and Health Services Managers – Patient Survey

STUDENT: After the patient returns home, he will receive a patient survey to complete from the medical and health services managers. *(Take out patient survey from department bag and hold up for all to see.)* The patient survey is an important part of the feedback needed to improve the health care system. The questions are designed to pinpoint problem areas that need to be addressed.

Home Health Aids – Digital Thermometer

STUDENT: Fortunately, our accident victim does not need additional care at home. However, if he/she did, home health aides would visit him/her on a regular basis. One thing home health aides do is take the temperature of the patient. *(Take out thermometer from department bag and hold up for all to see.)* Normal body temperature is 98.6 degrees Fahrenheit. When a person is ill, one of the first

symptoms is a rise in the temperature as the body attempts to fight off the invading microorganisms.

TEACHER/HEALTHCARE WORKER:

Wow – it’s good to know that our accident victim received such good care at our local hospital and clinic! As you just experienced, it takes a lot of people to care for you if you are injured or ill, and not all who work in healthcare need a college degree or eight or more years of training beyond high school.

Closing Activity

Have all students look at the label on their prop bag and find the years of training. Ask all students that have 1 year of training to stand. Count the students and note the number. Ask them to take their seats. Next, ask all students with 2 years of training to stand and note the number. Finally, ask all students with 4 years and more of training to stand and note the number. Discuss the varying amounts of education required to become a healthcare professional.

Discussion/Wrap-up

Today we discussed 21 occupations in the Health Care Industry. However, we didn’t even come close to mentioning all the different jobs in health care. Have the students share other jobs that are available at a hospital. These don’t have to all be just health care. Some examples are food service, custodial service, laundry, accounting, marketing, etc.

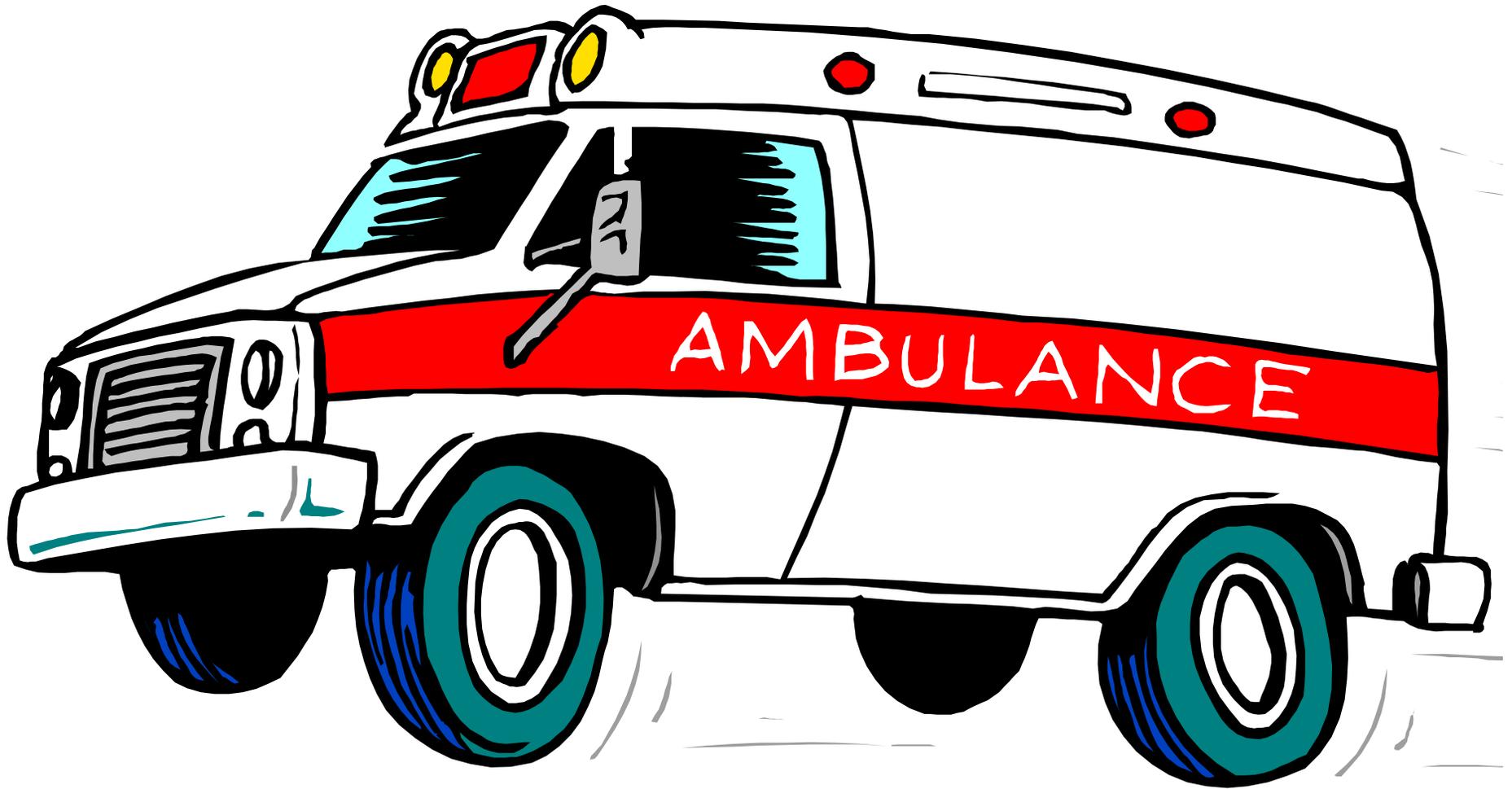
If you think you would like to explore health careers further, you can:

- Visit with your guidance counselor
- Visit healthcareers.sd.gov for more information
- Request a “South Dakota Health Careers Guide” by visiting healthcareers.sd.gov
- Consider attending a Scrubs Camp: www.scrubscamps.sd.gov
- Contact your local healthcare facilities to inquire about volunteering

Possible discussion questions:

- Are there any jobs that interested you? Why?
- What courses do you think you would need to take in high school?
- Were there any jobs discussed today that you didn’t know existed?
- How do you feel about the level of education needed for some jobs?
- What did you think about the wages in the jobs?
- What are benefits to staying in South Dakota to practice healthcare?





Health Occupations for Today and Tomorrow

Department 1-Emergency Room

- Emergency Medical Technician (EMT)
- Phlebotomists/Medical Lab Technician
- Radiology Technician
- Medical/Clinical Lab Technologist

Department 2-Health Information

- Health Information Technician
- Medical Transcriptionist
- Medical Assistant

Department 3-Surgery

- Nurse Anesthetist
- Surgeon
- Surgical Technician

Department 4-Nursing Unit

- Registered Nurse
- Licensed Practical Nurse
- Nursing Assistant (Aide)

Department 5-Ancillary Services

- Pharmacist
- Cardiovascular Technician
- Dietitian

Department 6-Rehabilitation Services

- Physical Therapist & Assistant
- Occupational Therapist & Assistant
- Respiratory Therapist

Department 7-Discharge Care

- Medical & Health Care Administrator
- Home Health Aide