Issues In Organ Donation

Course
Pathophysiology

Unit
History Trends and the Future

Essential Question
How do medical ethics play a role in organ donation?

TEKS
130.208 (c)
3 B,D,F
7 C

Prior Student Learning
Knowledge of ethical issues in healthcare

Estimated time
3 hours

Rationale
As success with organ transplants has grown, ethical issues have developed.

Objectives
Upon completion of this lesson, the student will be able to

- Understand the basics of the organ donation process and how to register as a donor
- Analyze organ transplant barriers
- Debate the ethical issues related to organ transplant

Engage
Show the organ donor form for Texans downloaded from https://www.donatelifetexas.org/TXDear_Secure/pdf_files/Texas%20Donor%20Registry%20Blank%20Application%20Final.pdf, included at the end of this lesson. Look at the information which is included in the form. Discuss the list of organs which can be donated.

Ask students if they can name any famous people who have had an organ transplant. Answers can include

- George Lopez Received a kidney from his wife in April, 2005
- Sean Elliott NBA star received a kidney in August, 1999
- Ron Springs NFL player received a kidney from a teammate in February, 2007
- Steve Jobs CEO of Apple received a liver in April, 2009
- Larry Hagman Star of "Dallas" received a liver in 1995

Key Points

I. Organ transplants are lifesaving procedures for many people and often the only possible treatment available. Some noteworthy facts about diseases and transplantation are
   A. More than 200,000 people in the U.S. suffer from kidney failure
   B. Treatment of kidney failure generates medical expenses of more than $7 billion annually
   C. Each year more than 60,000 Americans die from liver failure
   D. When a bone marrow transplant is successful, it is restorative for leukemia, immunodeficiency, sickle cell anemia, and certain metabolic disorders
   E. Success rates vary for the different types of organs transplanted and can be as high as 90% or as low as 50% for one year
   F. The scarcity of donor organs means only a small fraction of patients

actually receive transplants
G. Procedural barriers and social restrictions result in lower access to transplants for minorities
H. Immunologic rejection is one of the major barriers to successful transplantation

II. The History of Organ and Cell Transplantation
A. Transplantation actually began in ancient times (ancient India) with transplantation of skin on the leg
B. In 1670 Russians performed the first xenotransplantation by using a bone from a dog to repair a cranial defect in a human baby
C. The first organ transplant in modern times was performed in Chicago in 1906 – transplanted new heart into a dog and new kidney into a cat
D. The first kidney transplant in the U.S. was in 1950
E. The first lung transplant was at the University of Mississippi in 1963
F. The first successful pancreas transplant was in 1967
G. Also in 1967, Dr. Christian Bernard performed the first successful heart transplant in South Africa

III. The History of Immunosuppressant Drugs
A. At the core of the transplant recipient's long term survival is the principal immunosuppressive drug, cyclosporine
B. Cyclosporine revolutionized the realm of organ transplantation in 1983 because it selectively suppresses the recipient's immune system – it works by inhibiting T-cell activation, thus preventing T-cells from attacking the transplanted organ
C. Cost to the recipient of immunosuppressive therapy
1. Approximately $12,000 to $15,000 the first year following transplant
2. Approximately $10,000 to $12,000 each year thereafter

IV. Transplant Candidacy
A. Since organs are scarce, allocation is a huge issue. Who gets the organ? Who are the best candidates?
B. What factors are taken into consideration?
1. Life Expectancy
a. Are there other medical conditions that might compromise life expectancy?
b. What is the age of the recipient in respect to how many years left to live?
2. Organ Failure Due to Abusive Behavior
a. Alcoholism
b. Drug abuse
c. Smoking
d. Eating disorders

3. Patient Compliance/Adherence Concerns
    a. Is the patient reliable and consistent?
    b. Will the patient take medication and follow the physician's orders?
4. The Presence of Alternative Therapies – are alternate therapies available that can delay or prevent transplantation?

V. Obstacles to Transplantation
    A. The number of people needing transplants increases each year
    B. Rejection is the body's natural reaction to transplanted organs and tissues. This threatens each patient with loss of the new organ or even loss of life

VI. Ethnic Groups and Transplantation
    A. Biological differences can have significant effects on the risk for certain diseases and the need for, access to, and outcome of transplantation
        1. Several autoimmune diseases, such as diabetes and systemic lupus erythematosus, can lead to end-stage organ failure
        2. These diseases affect some groups of patients significantly more than others
            a. End-stage renal disease is four times greater in African Americans than in whites, mainly because of higher rates of hypertension and autoimmune disease
            b. End-stage renal disease is increasing most rapidly among Native Americans because of a significant growth in the incidence of diabetes
            c. Autoimmune diseases are six times more common in women than in men
    B. Forty-six percent of individuals currently waiting for organ transplants are ethnic minorities – by contrast, minorities represent only about 25% of organ donors, making successful transplantation for specific minority groups more difficult
    C. Some groups of patients are transplanted less frequently than others because of immunologic incompatibility
        1. In kidney transplantation, women, African Americans, and children are among these disadvantaged groups
            a. Less than 1% of organ donors are African American
            b. Because of underrepresentation, tissues matches are more difficult

VII. The Future of Transplantation
    A. A scarcity of transplant organs
    B. Today more than 25 organs and tissues may be transplanted (bone and cartilage, corneas, solid organs, bone marrow, and more)
    C. Researchers are experimenting with alternative measures to

increase the pool of suitable organs

1. Xenotransplantation
2. Cut-down livers
3. Stem cell research
4. Cloning organs

Activity

I. Report over the book, *Many Sleepless Nights: The World of Organ Transplantation*.

II. Complete a Disease Report over the Organ Transplant Case Study.

III. Engage in biomedical debate over one of the following:

- Living donors: how much risk should a healthy person be exposed to for the sake of someone who will die?
- Do prisoners have the right to receive organs?
- Should people who have abused their bodies have the right to receive organs?
- Should humans use animals for organs?
- Is the cost of transplantation too costly to society?

IV. Watch the movie *7 Pounds* or *John Q*. Discuss transplantation issues identified in the movie(s).

Assessment

Successful completion of activity
Diseases Report Rubric

Materials

Many Sleepless Nights: The World of Organ Transplantation – an insightful book; describes the patients who go through transplantation, the intricate medical procedures, the surgeons and nurses who work in this particularly complex milieu, and the ethics that complicate this high-tech "miracle." **ISBN:** 0822959054

Impact of Organ Transplantation on Economy (good resource for activities) http://istf.ucf.edu/ISTFSites/97/97002/economy.html

http://www.hosa.org

Organ Donation/Transplantation Facts & Myths: http://optn.transplant.hrsa.gov/

Accommodations for Learning Differences

For reinforcement, the students will report on an organ procurement agency (Life Gift, Southwest Organ Donor Center, etc.)

For enrichment, the student will prepare a comparative cost analysis on one of the following:

- Different types of organ transplantation
- The mean cost of organ transplantation versus the lifetime cost of maintaining an individual in the prison system
- The mean cost of organ transplantation versus multiple births

National and State Education Standards
National Healthcare Foundation Standards
Standard 6 Ethics
6:1 Ethical Boundaries
6:12 Recognize ethical issues and their implications related to healthcare.
6:3 Cultural, Social and Ethnic diversity
6:31 Understand religious and cultural values as they impact healthcare

TEKS
130.208(c)(3)(B) Communicate and apply scientific information extracted from various sources such as current events, news reports, published journal articles and marketing materials;
130.208(c)(3)(D) Evaluate the impact of scientific research on society and the environment;
130.208(c)(3)(F) Research and describe the history of science and contributions of scientists; and
130.208(c)(7)(C) evaluate treatment options for diseases.

Texas College and Career Readiness Standards
Science Standards
I.Nature of Science: Scientific Ways of Learning and Thinking
B.Scientific inquiry
1.Design and conduct scientific investigations in which hypotheses are formulated and tested
D.Current scientific technology
1.Demonstrate literacy in computer use
E.Effective communication of scientific information
1.Use several modes of expression to describe or characterize natural patterns and phenomena. These modes of expression include narrative, numerical, graphical, pictorial, symbolic and kinesthetic.
2.Use essential vocabulary of the discipline being studied
III Foundation Skill: Scientific Applications of Communication
D Research skills/information literacy
1 Use search engines, databases and other digital electronic tools effectively to locate information
2Evaluate quality, accuracy, completeness, reliability, and currency of information from any source
IV Science Technology and Society

A.Interactions between innovations and science
1 Recognize how scientific discoveries are connected to technological innovations
B Social ethics
1 Understand how scientific research and technology have an impact on ethical and legal practices
2 Understand how commonly held ethical beliefs impact scientific research
C History of science
1 Understand the historical development of major theories in science
2 Recognize the role of people in important contributions to scientific knowledge

Glenda Dawson Donate Life – Texas Registry
Give the gift of life by registering to become an organ, tissue, and eye donor.
*** = Required Information. Please print clearly and complete fully.**

*** Name:** _____ First name MI Last Name	**Date of Birth** _____/_____/_____ (MM) (DD) (YYYY)
*** Mailing Address:**	*** Gender: M or F (circle one)**
*** City, State, ZIP:**	**Are you Hispanic or Latino?** Yes No **Please tell us your race (choose one best answer from the list).** Alaska Native or Native American Asian Black or African American Native Hawaiian or Other Pacific Islander White
*** Fill in one below:** **Texas Driver License or Personal ID Number** _____**or** **Last four digits of Social Security Number** _____**or** **Mother's Maiden Name** _____	

Organ and Tissue Designations

*** I Consent to Donate:**			
☐ **All Organs and Tissues** (If you check **All Organs and Tissues**, do not check any boxes below)			
☐ Kidneys	☐ Lymph Nodes	☐ Arteries	☐ Heart Valves, Vessels, Pericardium
☐ Heart	☐ Small Intestine	☐ Veins	☐ Skin
☐ Liver	☐ Eyes	☐ Bones	☐ Pancreas
☐ Lung	☐ Corneas	☐ Soft Tissues	

*** Sign and Date**

X _____ Date_____

Donor signature is required. If the donor is under 18, a parent or guardian must sign on behalf of the donor.

Please Send Your Completed Form
By mail to:
Processing Center
Glenda Dawson Donate Life – Texas Registry
30 Lanidex Plaza West
P. O. Box 685
Parsippany, NJ 07054

Or, by fax to:
1-866-546-6653

The information you provide is secure and used only for registration purposes.

DSHS Form EF07-12808 Rev. 10-2010

DONATE LIFE Texas
www.donatelifetexas.org

TEXAS Department of State Health Services

Liver Transplant Case Study

Sue is a 33-year-old, white female from Eastern Oklahoma. She has been married for 15 years and is the mother of four children. She has a high school education, works as a cashier at Wal-Mart, and is active in her local church. Sue smoked approximately a ½-pack of cigarettes a day, but quit seven years ago. Sue does not have a history of alcohol abuse. She has had occasional drinks, but reports her last drink was five years ago. Up to this hospitalization, she had considered herself healthy.

Sue was admitted to her local hospital three weeks ago by her primary care physician (PCP) with some gastrointestinal symptoms. She presented with jaundice, nausea, vomiting, headaches, and dehydration. She was fatigued and had lost eight to ten pounds in the past several weeks. During admission she was found to have hypoglycemia, elevated liver function tests (LFTs), and a prolonged prothrombin time. She was treated with IV hydration, vitamin K, and Compazine as needed for nausea. Sue was referred to the transplant institute after little to no improvement.

Her local physician initiated the referral process by calling the transplant center. The physician spoke to a liver transplant coordinator who obtained information about Sue and her current condition. This initial information included her age, sex, date of birth (DOB), social security number, local home address, telephone number, insurance information, brief medical history, current condition, and current laboratory values. This information was given to the transplant physician who accepted the patient for transfer. The local physician made the necessary transfer arrangements to the transplant center and notified the transplant center of those arrangements, including her estimated time of arrival (ETA). Once the coordinator knew the ETA, he notified admissions to get a bed either in the Intensive Care Unit (ICU) or on the medical floor. Sue went to the ICU. The coordinator also called a report in to the nursing staff in the ICU so they could prepare for the patients arrival.

Day One

Sue arrived at the transplant center via ambulance and was taken straight to the ICU where she was placed into bed and hooked up to a hemodynamic monitor by the ICU nurses. The nurses in the unit then notified the transplant hepatologist. The critical care medicine physician (CCM) and the nurses who work in the ICU obtained a report from the paramedics who transported Sue. While they were getting a report, the CCM was also assessing Sue. This assessment is a head-to-toe assessment which starts with Sue's neurological status. They asked Sue questions to determine her level of consciousness, orientation, and ability to process thoughts. Some examples of these questions are

- What is your name?
- Do you know where you are?
- What year is this?
- Can you count backwards from 100 subtracting seven each time?

This last question helped the transplant surgeons determine how encephalopathic Sue was upon arrival. Encephalopathy is a condition in which the body is unable to clear ammonia and

other toxins from the blood stream due to liver dysfunction. These toxins then cross the blood brain barrier and cause the patient to be confused and disoriented. If the liver is functioning properly, it will break down the ammonia into urea and other waste products which are then excreted by the kidneys and through the stool.

Upon arrival at the hospital Sue was awake, alert, and oriented to person, month, and year. Next, they assessed the trunk, chest, and abdomen. The lungs and heart were osculated. The abdomen was then osculated for bowel sounds and percussed to determine if the patient had any fluid, gas or solid mass, and finally palpated to determine the location and size of the liver and spleen. After the trunk and extremities were assessed, the legs and arms were checked for edema, fluid accumulating under the skin, pulses, and any abnormal skin lesions. This information and the vital signs, blood pressure (B/P), pulse, and temperature were documented in the patient admission history and physical. The transplant hepatologist also assessed Sue and ordered routine labs to check her liver function, complete blood count (CBC), electrolytes, prothrombin time (PT), partial thromboplastin time (PTT), ammonia, Factor V, and her autoimmune markers to rule out autoimmune hepatitis. He ordered an ultrasound of the abdomen to assess vessel patency as well as help to identify any masses (tumors) in or around the liver. The CCM placed a central venous catheter into the subclavian vein for IV fluid administration, blood draws, and hemodynamic monitoring. Sue was placed on a monitor that continuously monitored her vital signs, electrocardiogram (EKG), central venous pressure (CVP), and oxygen saturation. She was started on a D5NS at 50 ml/hr for hydration and lactulose to help decrease her ammonia and improve her encephalopathy.

Upon arrival to the ICU, Sue was relatively stable. Her vital signs were BP 122/48, pulse 90, and respiratory rate 16 breaths per minute (bpm). Her lungs were clear with no evidence of any lesions suggestive of chronic liver disease. Her heart sounds were rhythmic and regular with normal S1 and S2 with an I/VI systolic ejection murmur along the left sternal border. Sue's abdomen was slightly distended. Her liver was palpated two finger breadths below the right costal margin. The spleen was not palpable. Some fluid within the abdomen (ascites) was noted on the ultrasound but could not be appreciated by a physical exam. Her extremities were normal with no evidence of palmar erythema or asterixis (flapping tremor). Sue's lab results upon admission were as follows:

- CBC: white blood count (WBC) 8.7, hemoglobin 12.5, hematocrit 36.2, platelet 293
- Coagulation studies: PT 24.7, PTT 59.6, Factor V 17
- Chem 7: sodium (NA) 137, potassium (K+) 3.7, chloride (CL) 107, bicarb (CO_2) 21, Glucose 75, blood urea nitrogen (BUN) 3, creatine 0.7
- Liver Profile: total bilirubin (TB) 31.6, direct bilirubin 19.2, SGOT (AST) 909, SGPT (ALT) 553, Alkaline Phosphatase (ALP) 64, GGT 20, total protein (TP) 5.8, Albumin (ALB) 2.1, ammonia 66

Sue's ultrasound was normal with the main portal vein (MPV), right portal vein (RPV), left portal vein (LPV), right hepatic artery, left hepatic artery, and the spelling vein (SV), all patent with hepatopedal flow (towards the liver). The hepatic veins and the inferior vena cava (IVC) demonstrated hepatofugal flow (away from the liver). Her EKG revealed sinus tachycardia with a rate of 105 beats per minute.

Day Two
Sue was in stable but critical condition. She was afebrile with a temperature of 36.6 degrees Celsius, B/P 111/67, P 106, respiratory rate (RR) 20, central venous pressure (CVP) 9, 0_2 saturation 95-97%, and her weight was 73.2 kg. Her lungs remained clear to auscultation. There was no peripheral edema, but she did have some ascites in her abdomen. Her LFTs had improved, but her PT continued to increase. Her drug screen and pregnancy test from admission were both negative. Sue was to undergo a complete and thorough evaluation for liver transplantation. This evaluation included the following:

- Labs: chemistry panel 25, autoimmune makers, hepatitis profile, tumor makers (AFP, CEA), blood type and screen, viral serology's fungal battery, Torch serology's arterial blood gases (ABGs), HIV, HTLV I/II, RPR, HLA's PRA, routine urine analysis, and urine culture.
- Radiology: U/S of the abdomen, CT scan of the abdomen for liver volume and to rule out masses, chest x-ray, panorex, sinus series, mammogram (female patients), echocardiogram, and CT of the head and chest if clinically indicated.
- Sue was also seen by a social worker for a psychosocial assessment and the financial coordinator.

Problems that were identified were discussed and addressed with the transplant team.

The transplant coordinator was notified and went to the ICU to go through Sue's complete medical records from both the transplant center and the referring hospital. A transplant evaluation card was started and the data that was generated was written onto the card. The coordinator reviewed and recorded every lab result, radiological test and/or procedure, consultation note, progress note, and procedure/operative note to make sure that nothing was missed. The physician's orders were also reviewed to determine what had been ordered and what still needed to be ordered. Those test and necessary consults that had not been ordered were ordered by the coordinator. All this information was then reviewed with the transplant surgeons. This card was kept with the transplant surgical coordinator on-call, so that when a liver became available, they would have a mini-medical record for all the patients listed. The coordinator was also responsible for preparing a condensed presentation of the patient for the weekly Abdominal Organ Transplant Candidate Meeting. This is a multi-disciplinary team of doctors and coordinator/nurses. Once the transplant team had decided that the patient was a suitable candidate, the surgeons instructed the coordinators to list the patient with the United Network for Organ Sharing (UNOS). This is a national list.

Depending on the severity of the patient's condition, he/she may be listed as a Status 1, 2, 3, or 7. Due to her urgent medical condition, Sue was listed today as a Status 1 and can be presented at the next weekly meeting.

Sue underwent an esophagogastroduodenoscopy (EGD) at 9:30 because of her nausea and vomiting. The procedure was done in the ICU because of her condition. Sue was sedated with Versed and rolled onto her right side. Once she was semiconscious, the back of her throat was sprayed with a topical anesthetic to numb it. A bite block was placed in her mouth and she was instructed to bite down. The bite block had a hole in the center of it to pass the endoscopy through. The hepatologist doing this procedure looked at Sue's esophagus, stomach, and the

first portion of the small bowel. Sue was found to have severe distal esophagitis. Her stomach had mild erythema at the fundus and body. The antrum of the stomach had severe erythema. Her duodenum was normal. The endoscope was removed, and Sue recovered from her sedation. Sue was then scheduled for a liver biopsy to better assess the condition of her liver histopathologically. The liver biopsy can be done either percutaneously with the assistance of ultrasound, (CT Scan) computerized axial tomography, or blind. Due to Sue's prolonged PT, she had a high risk of bleeding using one of these methods so she had a transjugular liver biopsy. The physician doing this procedure was the interventional radiologist, He numbed Sue's neck with Zylocaine and inserted a catheter into her internal jugular vein. He then passed a guidewire through a larger catheter, down the jugular vein to the superior vena cava, through both the right and left atriums of the heart, into the inferior vena cava, and then down to the hepatic veins. The biopsy instrument was then passed over the guidewire and into the liver where the biopsy was obtained. The biopsy specimens were sent to pathology where they were prepared and reviewed by a pathologist and the transplant team. Sue's liver biopsy revealed a severely injured liver with 70% necrosis, etiology unknown.

Days Three and Four

Sue's encephalopathy improved somewhat overnight with intermittent doses of Flumazenil. Her new problem was a low grade temperature of 38.2 for which she was pan cultured (blood, urine, and sputum for bacterial, viral, and fungal cultures) and started on Cipro, Imepindine, and Diflucan for broad coverage. Her morning vital signs were T 37.9, B/P 113/56, RR 20-30, CVP 14. She was hemodynamically stable but seemed to be getting a little volume overloaded. She was given Lasix and started on a renal dose Dopamine (2 micrograms/kg/minute) to help increase the perfusion of her kidneys. Her lungs remained clear but her O_2 sats decreased somewhat over the last eight hours. She received 2 units of fresh frozen plasma (FFP) to help correct her PT. She was scheduled for a CT scan of the chest and abdomen and a US of the abdomen.

Days Five through Eight

Sue's mental status began to deteriorate and she became more encephalopathic. Her LFT's continued to decrease but her PT and ammonia were still elevated. Her ammonia was 87 and her PT was 23 this morning. Because of this, Sue was sedated with Etomidate and Vecuroniam and intubated and placed on a ventilator. This would also protect her airway from aspiration which could lead to pneumonia. Sue's lungs were getting wetter (pulmonary edema) because of the amount of blood products she was receiving. She was started on a Lasix drip and a continuous infusion of Lasix at a prescribed dose over a 24-hour period to better manage the fluid status. She continued her antibiotics and Diflucan coverage. The cultures obtained yesterday are all negative to date. The Imepindine was held and Vancomycin was started. She had labs repeated several times to follow-up on the new treatments started. A neurology consult was ordered because of Sue's increasing encephalopathy. The neurologist performed a complete neurologic assessment and ordered a CT scan of the head. Sue's condition continued to worsen and she was started on plasmapheresis to help correct her PT and remove other harmful toxins. This required a central venous catheter. The catheter which was placed is a hemo-dialysis catheter and can be placed in the neck (jugular vein), chest (subclavian vein), or the groin (iliac or femoral vein). Plasmapheresis is simply washing of the blood. The machine functions a lot like a dialysis machine. It pulls the blood out of the body and runs it over several

filters and then puts it back into the patient. These filters remove harmful toxins that the liver cannot remove because of its failing condition. During the plasmapheresis, fresh frozen plasma (FFP) is given to replace the old plasma being removed. It also gives the patient important clotting factors which her liver is no longer producing. This will help to correct Sue's prolonged PT for a short period of time. Sue was plasmepheresed once on day five and then received plasmapheresis twice a day on days six, seven, and eight.

On day seven, Sue developed acute renal failure and was not producing much urine. A nephrology consult was ordered and the nephrologist came to see Sue. What urine she was producing was with the help of the diuretics (Lasix) that were being given to her to help decrease the amount of ascites and edema that she had developed. She was in a state of metabolic alkalosis and hypernatremia. She had received IV contrast today during her CT scan of the head. The CT scan was to further evaluate her hepatic coma and necessary to ensure that she had not had a spontaneous bleed into her head or a hermiation of the brain stem. The nephrologist recommended that the IV fluid be continued to wash out the IV contrast, increase her free water to help correct the hypernatremia, and change the diuretics to Diamox. She had another EEG today. Sue's CT scan of the head was unremarkable for any acute intracranial abnormalities. There were no lesions, intra or extra cerebral bleeds or mass effects noted. A neurosurgeon was consulted for an intracranial bolt placement to monitor her intracranial pressure (ICP) and protect her brain. If the pressures are high, medications can be given to decrease the pressures. The head of Sue's bed was raised to a 45 degree angle to help decrease her ICP. Sue was placed into a phenobarbital coma to decrease and stop the seizures she was having and to help protect her brain.

Day Nine
The transplant surgeon received a phone call from an OOSN (Oklahoma Organ Sharing Network) coordinator. A potential donor liver has become available for Sue. The surgeon contacted the surgical coordinator on-call and informed them of the information including the name of the OOSN coordinator and their phone number. The surgical coordinator called the OOSN coordinator and obtained the donor information.

The operating room (OR) time was determined based on the donor hospital's surgery schedule. The donor procurement team at the transplant center was notified by the surgical coordinator and instructed to report to the emergency room at 2PM. They went to Tulsa for the donor. The OR time was 4 PM. Sue was taken to surgery at 10PM. The surgical coordinator then called the preoperative orders to the ICU nurses and gave them the time that the patient needed to be in the OR. Next, phone calls were made to the surgical fellows, anesthesiologist, blood bank, OR staff, perfusionist, bed boards, house supervisor, and the financial coordinator. Sue went to the OR at 10PM as planned.

The surgery lasted seven hours and twenty-eight minutes. Sue successfully underwent liver transplantation. She was then taken back to the ICU to recover. When she arrived in the ICU, she was on a respirator, had two arterial lines, several venous catheters, three Jackson Pratt drains in her abdomen, a Foley catheter in her bladder, a T-Tube to a bile bag, and a large abdominal dressing. The T-Tube was placed into the recipient and donor bile ducts before they were sewn together to divert bile. Later, the tube was tied off and then pulled. Sue was

extubated, taken off the ventilator, and had the intracranial bolt removed on post-op day two. She did well until post-op day six when she had a rise in her LFT's. She had a U/S of the abdomen to rule out any technical problems and a liver biopsy to rule out rejection. Sue had moderate rejection and was treated with a steroid recycle. This recycle was an initial bolus dose of Solu-Medrol IV 1 gram and then a tapering dose daily for five days. Sue was transferred to the transplant surgical floor on post-op day eight. She received her patient educational materials and was instructed how to monitor her vital signs, to do finger stick blood sugars, how to self-administer insulin if needed, and all the medication. She continued to recover and was discharged to home on post-op day sixteen.

Disease Report Template

Disease
Alternate Name(s)
Definition
Etiology
Signs & Symptoms
Diagnostic Tests
Treatment
Complications
Prognosis
Bibliography

Disease Report Rubric

Criteria	Possible Points	Points Awarded
Disease Correctly names the disease.	**3**	
Alternate Names If applicable, includes any alternate names for the disease or disorder.	**2**	
Definition Includes an in-depth discussion of the history and general description of the disease with interesting facts	**10**	
Etiology Includes the cause or origin of the disease or disorder.	**15**	
Signs & Symptoms Accurately describes the common physical and medical symptoms.	**15**	
Diagnostic Tests Identifies tests performed to aid in the diagnosis or detection of disease or disorder.	**15**	
Treatment Identifies the mode or course pursued for remedial ends for the disease or disorder.	**15**	
Complications Identifies any diseases or injuries that may develop during the treatment of the disease or disorder.	**10**	
Prognosis Includes the prediction of the probable course, outcome, frequency, and life expectancy of the disease or disorder.	**10**	
Bibliography Follows proper format and includes more than 3 sources.	**5**	
TOTAL	**100**	

Writing Rubric

Student: _____ Date: _____

Scoring criteria	4. Excellent	3. Good	2. Needs Some Improvement	1. Needs Much Improvement	N/A
The writing has all required parts from introduction to conclusion in smooth transition.					
The writing is interesting, supportive, and complete.					
The writing demonstrates that the writer comprehends the writing process.					
Accurate spelling, grammar, punctuation.					
Content of paragraphs emphasizes appropriate points.					
The writer shows an understanding of sentence structure, paragraphing, and punctuation.					
All sources and references are clearly and accurately documented.					

NOTE: N/A represents a response to the performance which is "not appropriate."