You have been diagnosed with

PULMONARY HYPERTENSION

UNIVERSITY OF MINNESOTA
School of Nursing

SUMMARY:

According to National Institutes of Health (2015) and the Pulmonary Hypertension Association (2015):

Pulmonary hypertension (PH) is high blood pressure in the arteries to your lungs. The blood vessels that carry blood from your heart to your lungs become hard and narrow. Your heart has to work harder to pump the blood through. Over time, your heart weakens and cannot do its job and you can develop right-sided heart failure, which is also called *cor pulmonale*.

As PH worsens, you may find it hard to do *any* physical activities. There is no cure, but treatments can control symptoms. They involve treating the heart or lung disease, medicines, oxygen, and sometimes lung transplantation.

Carrying a child is dangerous for PH patients due to the increased strain it places on the heart and lungs. In a normal pregnancy, your blood volume increases by about 50%. The sudden change in blood volume during and after delivery can lead to right-sided heart failure in PH patients whose right-heart is already overworked due to the increased pressure in their pulmonary arteries. Estimates place the risk of death due to pregnancy-related heart failure in PH patients at 30-50%. In addition, some of the medications prescribed to PH patients are also known to be teratogenic, or harmful to the developing fetus. Because of the risk to both the patient and the fetus, use of some form of birth control and avoidance of pregnancy is strongly advised in women of childbearing age with PH.

REFLECTION: How would PAH affect your work? Social life? Relationships? Sex life?

National Institutes of Health. (2015). *Pulmonary hypertension.* Retrieved from www.medlineplus.gov

Pulmonary Hypertension Association. (2015). *About pulmonary hypertension.* Retrieved from www.phassociation.org

PULMONARY HYPERTENSION (PH)

CONCEPT MAP

University of Minnesota
School of Nursing

RESPIRATORY:

- **Dyspnea** *(shortness of breath. Early in disease: with activity or exertion. Later: constant, even at rest)*
- **Dizziness**
- **Syncope** *(fainting)*
- **Tachycardia** *(rapid heartbeat)*
- **Dry cough**

GENERAL:

- **Chronic fatigue & low energy**
- **Weakness**
- **Activity intolerance**

GENITOURINARY:

- **Pregnancy contraindicated:**
  - **35-50% death rate** *(due in part to how normal pregnancy increases blood volume by 50%)*
  - **Many PH meds are teratogenic** *(cause birth defects)*

PH

POTENTIAL SYMPTOMS & COMPLICATIONS

CARDIOVASCULAR:

- **Chest pain or pressure**
- **Tachycardia** *(rapid heartbeat)*
- **Right ventricular hypertrophy** *(right ventricle is enlarged & less effective. Also called cor pulmonale. Leads to right-sided heart failure)*
- **Right-sided heart failure:**
  - **Dependent edema** *(accumulation of fluid under skin that causes swelling. Dependent means in areas lower than heart. This is affected by gravity & position. Standing: ankles & legs. Lying: back & buttocks)*
  - **Enlarged liver and spleen**
  - **Distended jugular veins**

GASTROINTESTINAL:

- **Abdominal distension**
- **Ascites** *(excessive free fluid in the abdomen, which causes distension & pressure on internal organs)*
- **Reduced appetite**

PSYCHOSOCIAL:

- **Anxiety, depression**
- **Social isolation**
- **Spiritual distress, grief and loss**

SKIN (INTERGUMENTARY):

- **Cyanosis** *(bluish discoloration of skin and lips resulting from poor circulation and/or inadequate oxygenation of blood)*
- **Raynaud's phenomenon** *(chalky white or dusky blue fingers that may be painful – flare up can sometimes be provoked by cold)*

*Note: Concept map is intentionally comprehensive. A typical patient will **not** manifest every symptom & complication. Utilize data from this map for Project 3 and Teaching Project.*

Raney Linck, RN

You have been diagnosed with

CROHN'S DISEASE

University of Minnesota School of Nursing

SUMMARY:

According to Chron's and Colitis Foundation of America (2015) and National Institute of Diabetes and Digestive and Kidney Diseases (2015):

Inflammatory bowel disease (IBD) causes swelling and irritation of the gastrointestinal (GI) tract. Chron's is one type of IBD, and it can affect *any* part of the GI tract, from the mouth to the anus. The most commonly affected part is the end part of the small intestine, called the ileum. (*Note: The other main form of IBD is ulcerative colitis (UC). UC is different from Crohn's because UC only affects the colon and rectum.)*

Crohn's disease most often begins gradually and can become worse over time. Most people have periods of remission—times when symptoms disappear—that can last for weeks or years. Times when symptoms are active are often called "flares."

Crohn's disease can occur in people of any age. However, it is more likely to develop in people between the ages of 20 and 29, who have a family member (most often a sibling or parent) with IBD, and who smoke cigarettes.

The exact cause is unknown. It may be due to an abnormal reaction by the body's immune system. Researchers believe that with Crohn's disease, the immune system attacks harmless bacteria and viruses. During the attack, white blood cells gather in the intestinal lining. The white blood cells cause chronic inflammation, which leads to ulcers, or sores, and damage to the intestines. This inhibits the intestinal wall from properly absorbing nutrients. Other factors associated with Crohn's are genes and environmental triggers, like smoking.

People who have Crohn's disease may not get enough nutrition, such as protein, vitamins, or calories, because they have an upset stomach that keeps them from eating enough calories and/or may not be able to absorb nutrients in the intestine.

It can take a long time to properly diagnose. During that time, patients may experience a lot of conflicting data, treatments, and advice from friends. Often, people compare Crohn's to a temporary bout of stomach flu. They find it hard to believe how severe and long-term symptoms are. (S*ee back of page.)*

REFLECTION: How would it affect your work? Social life? Relationships? Sex life?

Chron's and Colitis Foundation of America. (2015). *What are Crohn's and colitis disease?* Retrieved from www.ccfa.org

National Institute of Diabetes and Digestive and Kidney Diseases. (2013, July 10). *What I need to know about Crohn's disease.* Retrieved from www.niddk.nih.gov

CROHN'S DISEASE
CONCEPT MAP

University of Minnesota
School of Nursing

GASTROINTESTINAL:
- **Diarrhea** *(at times unpredictable, even explosive)*
- **Blood in stool**
- **Intestinal obstruction or complete blockage** *(due to scarring of intestine)*
- **Intestinal bleeding** *("GI bleed")*
- **Perforation of bowel** *(hole in intestine)*
- **Polyps** *(clumps of cells forming on intestine lining, increases cancer risk)*
- **Gallstones**
- **Pancreatitis**

IMMUNE SYSTEM:
- **Fever**
- **Abscess** *(collection of pus due to infection)*
- **Arthritis** *(painful inflammation of joints)*
- **Chronic inflammation of liver** *(autoimmune hepatitis)*
- **Toxic megacolon** *(requires emergency surgery)*

CARDIOVASCULAR:
- **Anemia** *(lack of red blood cells leads to fatigue due to decreased transport of oxygen to tissues)*

GENERAL:
- **Pain**
- **Chronic fatigue & low energy**
- **Reduced appetite, anorexia**
- **Weight loss**

PSYCHOSOCIAL:
- **Anxiety, depression**
- **Poor body image, low self-esteem**
- **Social isolation**

SKIN (INTERGUMENTARY):
- **Fistulas** *(abnormal ulcerated tunnels from GI tract to other parts of body – commonly occur in the anus)*

HEAD (Eyes, Ears, Nose, Mouth):
- **Mouth sores**
- **Inflammation of eyes, mouth**

MUSCULOSKELETAL:
- **Osteoporosis** *(brittle bones due to loss of density)*
- **Osteomalacia** *(softened bones)*

GENITOURINARY:
- **Kidney stones**

DRAINS, TUBES:
- **Short-term or permanent ostomy** *(surgery brings one end of intestine out through an opening (stoma) made in abdominal wall. Stools drain through stoma into bag outside body.)*

*Note: Concept map is intentionally comprehensive. A typical patient will **not** manifest every symptom & complication. Utilize data from this map for Project 3 and Teaching Project.*

Raney Linck, RN

You have been diagnosed with

SPINAL CORD INJURY & PARAPLEGIA

University of Minnesota School of Nursing

SUMMARY:

After a motor vehicle accident, you have a complete spinal cord injury at the T-6 vertebra with paraplegia (loss of movement in lower half of the body).

According to National Institutes of Health (2015) and John Hopkins Medicine (2015):

- ***Level of injury:*** *T-6 vertebra*
- ***Impairment:*** *Paraplegia with loss of function below mid-chest, which results in decreased trunk stability, decreased respiratory reserve.*
- ***Rehabilitation potential:*** *Independent with self-care and in wheelchair; able to be employed full time*

Your spinal cord carries signals back and forth between your body and your brain. A spinal cord injury disrupts the signals. Spinal cord injuries usually begin with a blow that fractures or dislocates your vertebrae, the bone disks that make up your spine. Most injuries don't cut through your spinal cord. Instead, they cause damage when pieces of vertebrae tear into cord tissue or press down on the nerve parts that carry signals.

An SCI can be *complete* or *incomplete*. With a complete spinal cord injury, the cord can't send signals below the level of the injury. As a result, you are paralyzed below the injury. (With an incomplete injury, a person has some movement and sensation below the injury.)

An SCI is a medical emergency. Immediate treatment can reduce long-term effects. Treatments may include medicines, braces or traction to stabilize the spine, and surgery. Later treatment usually includes medicines and rehabilitation therapy. Mobility aids and assistive devices may help you to get around and do some daily tasks.

REFLECTION: How would SCI affect your work? Social life? Relationships? Sex life?

John Hopkins Medicine. (2015). *Spinal cord injury.* Retrieved from www.hopkinsmedicine.org

National Institutes of Health. (2015). *Spinal cord injury.* Retrieved from www.medlineplus.gov

SPINAL CORD INJURY (SCI) & PARAPLEGIA

CONCEPT MAP

University of Minnesota
School of Nursing

CARDIOVASCULAR:
- **Bradycardia** *(low heart rate)*
- **Hypotension** *(low BP in general)*
- **Orthostatic hypotension** *(postural hypotension: sudden fall of BP when person repositioned from lying to standing or sitting position)*
- **Deep vein thrombosis** *(DVT: blood clot in deep vein, usually legs)*
- **Pulmonary embolism** *(life-threatening: clot in a lung artery)*
- **Stroke** *(due to clot in brain)*
- **Atherosclerosis** *(narrowing of arteries due to build up of plaque)*

SKIN (INTERGUMENTARY):
- **Pressure ulcers** *(also called decubitus ulcers or bedsores)*

MUSCULOSKELETAL:
- **Loss of muscle tone**
- **Spasticity** *(normal reflexes become exaggerated)*
- **Limb contractures** *(elastic tissue replaced by inelastic: hard to stretch, prevents normal movement)*
- **Osteoporosis** *(brittle bones due to loss of density)*

RESPIRATORY:
- **Pneumonia**

GENERAL:
- **Pain**
- **Poor regulation of body temp** *(below level of SCI: inability to sweat or shiver - plus temp sensations cannot travel up to hypothalamus in brain)*

SCI

POTENTIAL SYMPTOMS & COMPLICATIONS

PSYCHOSOCIAL:
- **Anxiety, depression**
- **Spiritual distress, social isolation**

GASTROINTESTINAL:
- **Constipation or fecal impaction**
- **Ileus** *(loss of muscle motion in intestines causing obstruction)*
- **Cholecystitis** *(inflammation of gallbladder)*
- **Appendicitis**
- **Intestinal bleeding** *("GI bleed")*

GENITOURINARY:
- **Urinary incontinence**
- **Urinary retention** *(bladder cannot fully empty, residual urine left behind high risk for infection)*
- **Loss of sexual function** *(males: erection and/or ejaculation, females: lubrication)*

IMMUNE SYSTEM:
- **Chronic low-level inflammation**

NEURO:
- **Neuropathic pain** *(damaged nerves send abnormal pain signals)*
- **Autonomic dysreflexia** *(life-threating high BP caused by extreme sympathetic response triggered by sensory stimuli below SCI)*

*Note: Concept map is intentionally comprehensive. A typical patient will **not** manifest every symptom & complication. Utilize data from this map for Project 3 and Teaching Project.*

Raney Linck, RN

You have been diagnosed with

TYPE 1 DIABETES MELLITUS

UNIVERSITY OF MINNESOTA
School of Nursing

SUMMARY:

According to the National Institutes of Health (2015):

Diabetes means your blood glucose, or blood sugar, levels are too high. With type 1 diabetes, your pancreas does not make insulin. Insulin is a hormone that helps glucose get into your cells to give them energy. Without insulin, too much glucose stays in your blood. Over time, high blood glucose can lead to serious problems with your heart, eyes, kidneys, nerves, and gums and teeth. Type 1 diabetes happens most often in children and young adults but can appear at any age. You will need to take insulin for the rest of your life.

Diabetes mellitus (both type 1 and type 2) affects an estimated 29.1 million people in the United States. It is the seventh leading cause of death, and the leading cause of kidney failure, non-traumatic lower limb amputations, and, in working-age adults, blindness (NIDDKD, 2015).

Most people have heard of diabetes, but have only a very surface understanding. This can make living with the disease more difficult, because many people think: “oh, you take some insulin, and it’s no big deal.” Many people do not truly understand the complexity and seriousness of the disease and how daily management can be challenging.

REFLECTION: How would it affect your work? Social life? Relationships? Sex life?

National Institute of Diabetes and Digestive and Kidney Diseases. (n.d.). *Diabetes.* Retrieved from www.niddk.nih.gov

National Institutes of Health. (2015). *Diabetes type 1.* Retrieved from www.medlineplus.gov

TYPE 1 DIABETES MELLITUS
CONCEPT MAP

University of Minnesota
School of Nursing

CARDIOVASCULAR:
- **Hypertension**
- **Hyperlipidemia** *(high cholesterol in blood)*
- **Atherosclerosis** *(narrowing of arteries due to build up of plaque)*
- **Decreased peripheral circulation** *(to extremities)*
- **Myocardial infarction** *(heart attack)*
- **Stroke**

HEAD (Eyes, Ears, Nose, Mouth):
- **Retinopathy** *(destruction of small blood vessels in eyes causing blurry vision, even blindness)*

GENITOURINARY:
- **Nephropathy** *(also called kidney disease: destruction of small blood vessels in kidneys causing decreased renal function)*
- **End Stage Renal Disease & Dialysis**
- **Erectile dysfunction**
- **Risk for pregnancy complications**

CLASSIC SYMPTOMS OF HYPERGLYCEMIA:
- **Polydypsia** *(excessive thirst)*
- **Polyuria** *(excessive urine output)*
- **Polyphagia** *(excessive hunger)*
- **Weight loss** *(even though eating more)*
- **Fatigue**

PSYCHOSOCIAL:
- **Depression**
- **Exhaustion of daily management**
- **Cost of lifelong treatment**

NEURO:
- **Peripheral neuropathy** *(damaged nerves cause numbness, burning, and/or tingling in extremities: hands, feet, penis)*

IMMUNE SYSTEM:
- **Recurrent infections** *(including yeast infections)*
- **Prolonged wound healing**

SKIN (INTERGUMENTARY):
- **Skin ulcers**
- **Itching**
- **Fungal infections**

MUSCULOSKELETAL:
- **Limb amputation**

GASTROINTESTINAL:
- **Gastroparesis** *(delayed gastric emptying, which can lead to nausea, vomiting, bloating, heartburn, lack of appetite)*

ENDOCRINE:
- **Diabetic ketoacidosis** *(DKA can lead to coma and death)*

*Note: Concept map is intentionally comprehensive. A typical patient will **not** manifest every symptom & complication. Utilize data from this map for Project 3 and Teaching Project.*

Raney Linck, RN

You have been diagnosed with

RHEUMATOID ARTHRITIS (RA)

University of Minnesota
School of Nursing

SUMMARY:

According to the National Institutes of Health (2015) and National Rheumatoid Arthritis Society (2015)::

Rheumatoid arthritis (RA) is a form of arthritis that causes pain, swelling, stiffness and loss of function in your joints. It can affect any joint but is common in the wrist and fingers. More women than men get rheumatoid arthritis. It often starts in middle age and is most common in older people. But children and young adults can also get it. *(Note: RA is different from osteoarthritis, the common arthritis that often comes with older age.)* RA can affect body parts besides joints, such as your eyes, mouth and lungs. Some people have the disease a short time, or symptoms might come and go. You have a severe form of RA that will last a lifetime.

RA is an autoimmune disease, which means the arthritis results from your immune system attacking your body's own tissues. No one knows what causes RA. Genes, environment and hormones might contribute. Treatments include medicine, lifestyle changes and surgery. These can slow or stop joint damage and reduce pain and swelling.

REFLECTION: How would RA affect your work? Social life? Relationships? Sex life?

National Institutes of Health. (2015). *Rheumatoid arthritis.* Retrieved from www.medlineplus.gov

National Rheumatoid Arthritis Society. (2015). *What is RA?* Retrieved from http://www.nras.org.uk

RHEUMATOID ARTHRITIS (RA)

CONCEPT MAP

University of Minnesota
School of Nursing

MUSCULOSKELETAL:
- **Inflammation of joints in symmetrical pattern** *(same joint affected on both left and right side)*
- **Osteoporosis** *(brittle bones due to loss of density)*

IMMUNE SYSTEM:
- **Fever**
- **Chronic low-level inflammation**

HEAD (Eyes, Ears, Nose, Mouth):
- **Dry eye syndrome** *(Sjogren's syndrome)*
- **Inflammation of eyes** *(sclera and/or cornea)*

NEURO:
- **Peripheral neuropathy** *(damaged nerves cause numbness, burning, and/or tingling in extremities: hands, feet)*
- **Carpal tunnel syndrome** *(inflammation compresses nerve that serves most of your hand & fingers)*

GENERAL:
- **Pain**
- **Chronic fatigue & low energy**
- **Weight loss**
- **Impaired mobility, strength**

RA

POTENTIAL SYMPTOMS & COMPLICATIONS

PSYCHOSOCIAL:
- **Anxiety, depression**

SKIN (INTERGUMENTARY):
- **Rheumatoid nodules** *(firm bumps of tissue under skin, can also occur around heart or in lungs)*

CARDIOVASCULAR:
- **Anemia** *(lack of red blood cells leads to fatigue due to decreased transport of oxygen to tissues)*
- **Pericarditis** *(inflammation of membrane that surrounds heart)*
- **Pericardial effusion** *(collection of fluid in the sac around the heart)*
- **Atherosclerosis** *(narrowing of arteries due to build up of plaque)*
- **Myocardial infarction** *(heart attack)*

RESPIRATORY:
- **Pleuritis** *(inflammation of the membrane around the lungs)*
- **Pleural effusion** *(collection of fluid in the sac around the lungs)*
- **Pulmonary fibrosis** *(progressive scarring of lung tissue related to inflammation)*

*Note: Concept map is intentionally comprehensive. A typical patient will **not** manifest every symptom & complication. Utilize data from this map for Project 3 and Teaching Project.*

Raney Linck, RN

You have been diagnosed with

OBSESSIVE-COMPULSIVE DISORDER

SUMMARY:

According to National Institutes of Health (2015):

Obsessive-compulsive disorder (OCD) is a type of anxiety disorder. OCD causes you to have frequent, upsetting thoughts called ***obsessions***. (Examples of obsessions are a fear of germs or a fear of being hurt.) To try to control the thoughts, you feel an overwhelming urge to repeat certain rituals or behaviors. These are called ***compulsions***. (Examples of compulsions include washing your hands, counting, checking on things, or cleaning.) With OCD, the thoughts and rituals cause distress and get in the way of your daily life.

Researchers think brain circuits may not work properly in people who have OCD. It tends to run in families. Symptoms often begin in children or teens. Treatments include therapy, medicines, or both. One type of therapy, cognitive behavioral therapy, is useful for treatment.

People with OCD generally (NIMH, 2015):

- Have repeated thoughts or images about many different things, such as fear of germs, dirt, or intruders; acts of violence; hurting loved ones; sexual acts; conflicts with religious beliefs; or being overly tidy
- Do same rituals over and over such as washing hands, locking and unlocking doors, counting, keeping unneeded items, or repeating the same steps again & again
- Can't control the unwanted thoughts and behaviors. Don't get pleasure when performing the behaviors or rituals, but get brief relief from the anxiety the thoughts cause
- Spend at least 1 hour a day on the thoughts and rituals, which cause distress and get in the way of daily life.

Most people with OCD fall into one of these categories (Robinson, Smith & Segal, 2015):

- **Washers** are afraid of contamination. They usually have cleaning or hand-washing compulsions.
- **Checkers** repeatedly check things (oven turned off, door locked, etc.) that they associate with harm or danger.
- **Doubters and sinners** are afraid that if everything isn't perfect or done just right something terrible will happen or they will be punished.
- **Counters and arrangers** are obsessed with order and symmetry. They may have superstitions about certain numbers, colors, or arrangements.
- **Hoarders** fear that something bad will happen if they throw anything away. They compulsively hoard things that they don't need or use.

REFLECTION: How would OCD affect your work? Social life? Relationships? Sex life?

National Institute of Mental Health (2015). *What is obsessive-compulsive disorder?* Retrieved from www.nimh.nih.gov

National Institutes of Health. (2015). *Obsessive-compulsive disorder.* Retrieved from www.medlineplus.gov

Robinson, L., Smith, M., & Segal, J. (2015, August). *Obsessive-compulsive disorder.* Retrieved from www.helpguide.org

OBSESSIVE-COMPULSIVE DISORDER (OCD)

CONCEPT MAP

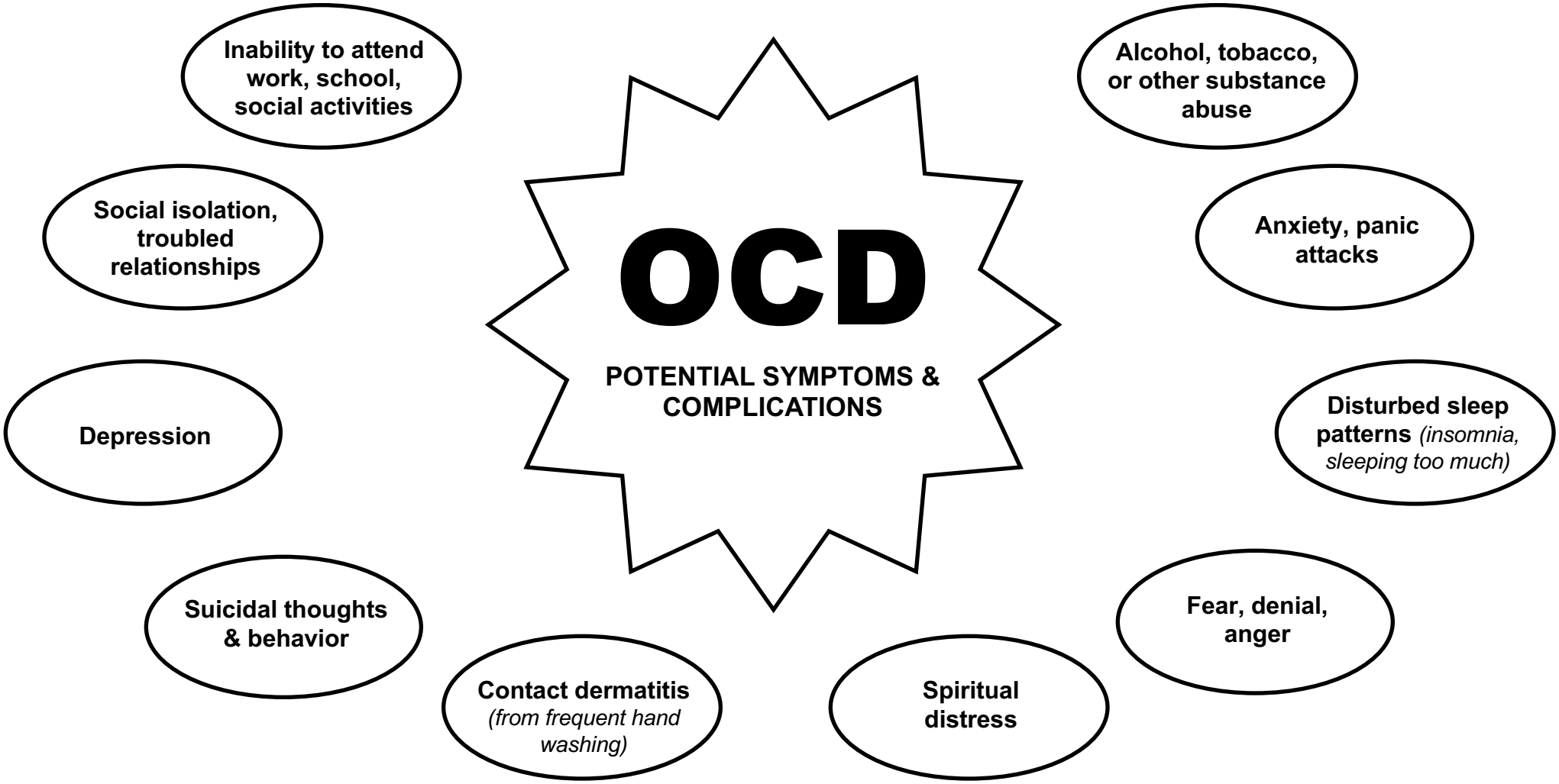
University of Minnesota
School of Nursing

NEUROLOGICAL:

- **Obsessions** *(frequent upsetting thoughts)*
  - *fear of germs or dirt*
  - *images of hurting self or others*
  - *unwanted sexual or violent images repeating in mind*

NEUROLOGICAL:

- **Compulsions** *(repetitive behaviors to reduce anxiety from obsessions)*
  - *hand-washing until skin is raw*
  - *silently repeating a prayer, word, or phrase*
  - *counting in certain patterns*



*Note: Concept map is intentionally comprehensive. A typical patient will **not** manifest every symptom & complication. Utilize data from this map for Project 3 and Teaching Project.*

Raney Linck, RN