DR. GOOGLE - SAMPLE CASE STUDY

Fifty-year old Melanie was admitted to the Markham-Stouffville General Hospital earlier today.

During her early morning jog through the park, Melanie became disoriented. The park began to "swim" in front of her while she jogged past the children's play area. Melanie attributed her dizziness to a lack of proper warm-up prior to her morning routine.

By the 3 km mark, Melanie was having difficulty remaining on the jogging path, and on more than one occasion, found herself leaving the path and jogging head-on into one of the trees lining the route.

Twenty minutes into her run, Melanie was no longer able to walk in a straight line and had to hold onto park benches to remain upright. As the park spun around her, Melanie began to vomit.

As she lay upon the ground, Melanie noticed that she was no longer able to focus on any of her surroundings. Her eyes just wouldn't cooperate and darted from side to side.

A bystander saw Melanie fall to the ground and called an ambulance on her cell phone.

Once at the hospital, Melanie's condition did not worsen. However, she complained of a loud buzzing in her right ear. When asked, Melanie said that she had been healthy up to now. She had not caught a cold, flu or even ear infection this past year.

Summary of Symptoms Chart – 1 Page Max

Group Members Names: _____ Patient Name: _____

Symptom List all symptoms. Highlight the symptoms that are the most important (those that are unusual or specific to a disease)	**Possible Diagnoses** List all possible Illnesses/Diseases. Highlight **THREE** medical conditions that seem to match most of the symptoms, or the most important symptoms. Research/describe these medical conditions BRIEFLY in the Clinical Notes Chart (NEXT PAGE).
Dizziness	Brain Meniere's Disease Stroke Syncope Tinnitus Tumour
Disorientation	
Poor coordination	
Weakness	
Vomiting	
Darting eyes	
Buzzing in ears	

Clinical Notes: 2-3 Possible Diagnoses – 2 Pages Max

Medical Disorder	Definition / Very brief description	Causes and/or Risk factors	Symptoms	References Cite where you obtained your information from.
Meniere's Disease	Disorder of the inner ear affecting balance and hearing, characterized by abnormal sensation of movement (vertigo), dizziness, loss of hearing in one or both ears, and noises or ringing in the ear.	A part of the semicircular canal (endolymphatic sac) has swelled. The endolymphic sac controls the filtration and excretion of the fluid in the semicircular canals, which in turn, helps control balance and sense of body position.	Vertigo(abnormal sensation of movement of self or environment) Dizziness Hearing Loss / Noises or ringing in one ear Nausea Vomiting Sweating Uncontrollable eye movements	*Meniere's disease.* (2015, November 26). Retrieved from https://www.mayoclinic.org/diseases-conditions/menieres-disease/symptoms-causes/syc-20374910
Stroke	Caused by an interruption of the blood supply to any part of the brain, resulting in damaged brain tissue.	If the flow of blood in an artery supplying the brain is interrupted for longer than a few seconds, brain cells can die, causing permanent damage. An interruption can be caused by either blood clots or bleeding in the brain. Most strokes are due to blood clots that block blood flow. Bleeding into the brain occurs if a blood vessel ruptures or if there is a significant injury.	Weakness Paralysis Numbness and tingling Changed or diminished vision Language difficulties Swallowing difficulties Vertigo Loss of balance or coordination Personality changes Depression Drowsiness Lethargy Uncontrollable eye movements	*Ischemic stroke.* (2017, August 17). Retrieved from https://emedicine.medscape.com/article/1916852-overview

Differential Diagnostic Chart) – 1 Page Max

Possible Diagnoses	**YES** **Symptoms of condition that are displayed by patient**	**NO** **Symptoms of condition that are absent in patient**
Meniere's Disease	Vertigo Dizziness Vomiting Loss of balance Hearing loss (Buzzing in right ear) Involuntary eye movements (darting eyes)	
Stroke	Vertigo Loss of balance or coordination Uncontrollable eye movements	Weakness Paralysis Numbness and tingling Changed or diminished vision Language difficulties Swallowing difficulties Personality changes Depression Drowsiness Lethargy

Final Diagnosis: Meniere's Disease

Clinical Notes: Research on Final Diagnosis – 2 Pages Max

Name of Medical Condition	Meniere's Disease	
Diagnosis (Observations or tests / technologies used to confirm the diagnosis)	A diagnosis of Meniere's disease requires: 1. Two episodes of vertigo, each lasting 20 minutes or longer but not longer than 24 hours Tests that assess function of the inner ear include: • Videonystagmography (VNG). This test evaluates balance function by assessing eye movement. Balance-related sensors in the inner ear are linked to muscles that control eye movement. This connection enables you to move your head while keeping your eyes focused on a point. In a VNG evaluation, warm and cool water or warm and cool air are introduced into the ear canal. Measurements of involuntary eye movements in response to this stimulation are performed using a special pair of video goggles. • Rotary-chair testing. Like a VNG, this measures inner ear function based on eye movement. You sit in a computer-controlled rotating chair, which stimulates your inner ear. • Vestibular evoked myogenic potentials (VEMP) testing. This newer test shows promise for not only diagnosing, but also monitoring Meniere's disease. It shows characteristic changes in the affected ears of people with Meniere's disease. • Posturography. This computerized test reveals which part of the balance system — vision, inner ear function, or sensations from the skin, muscles, tendons and joints — you rely on the most and which parts may cause problems. While wearing a safety harness, you stand in bare feet on a platform and keep your balance under various conditions. • Video head impulse test (vHIT). This newer test uses video to measure eye reactions to abrupt movement. While you focus on a point, your head is turned quickly and unpredictably. If your eyes move off the target when your head is turned, you have an abnormal reflex. • Electrocochleography (ECoG). This test looks at the inner ear in response to sounds. It might help to determine if there is an abnormal buildup of fluid in the inner ear, but isn't specific for Meniere's disease. 2) Hearing loss verified by a hearing test (audiometry) - assesses how well you detect sounds at different pitches and volumes and how well you distinguish between similar-sounding words. People with Meniere's disease typically have problems hearing low frequencies or combined high and low frequencies with normal hearing in the mid frequencies.	

	3) Tinnitus or a feeling of fullness in your ear 4) Exclusion of other known causes of these problems - Blood tests or MRI to detect for tumor in the brain or multiple sclerosis.	
Treatment	Secondary treatment of this disease depends upon presentation of symptoms, and may include: anti-nausea drugs (dimenhydrinate or cyclizine), tranquilizers to reduce dizziness, antihistamines and diuretics to decrease fluid in the inner ear. Primary treatment of this disease is rare and not recommended in this case unless condition worsens. For severe and frequent attacks, surgical destruction of the affected inner ear may be considered. During an attack, it is recommended that the patient: rests quietly in bed until dizziness and nausea disappear, does not walk without assistance, avoids sudden changes in position, does not drive, climb ladders or work around dangerous machinery. Since this patient is an avid jogger, we recommend she be accompanied during such activity. We would suggest that the patient's family be alerted to her condition, and be forewarned that it can recur unexpectedly at any time. Therefore, it is wise that she does not drive alone for prolonged periods of time, or for long distances. This disease may affect the patient in her work, and she may want to discuss her condition and its effects with her supervisor	
Prognosis (Chances of survival and any lifestyle changes the patient may face)	Meniere's is not a life-threatening disease, however the disease may recur over many years and, therefore, is very frustrating for the patient.	
Community Support / Resources	Melanie can join the Meniere's Disease Support Group on Facebook. The url of their website is http://www.menieresdiseasesupportgroup.com/.	
Additional Notes		