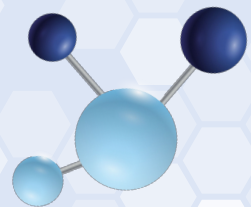


Impacts of Long-Covid





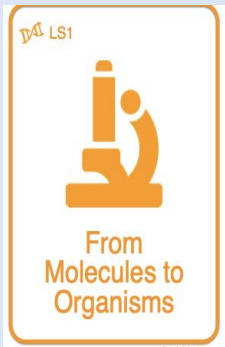
Day 1



Learning Target

I can **list and describe** the **structures and the functions** of the **Nervous System**

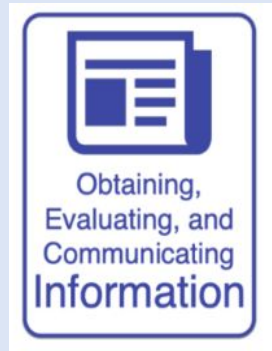
Unit about:



While thinking about this:



Do these:

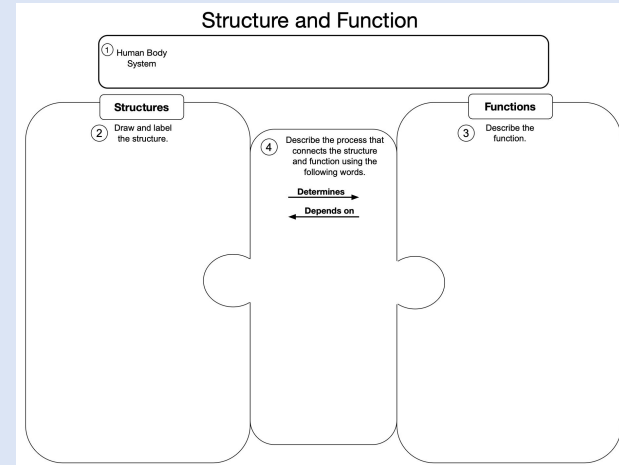


Relevance (in my life): I have a nervous System

Review Time!

1. What are the structures of the nervous system?
2. What are the functions of the nervous system?

Add the information on the graphic organizer →



Structure and Function

① Human Body System

Structures

② Draw and label the structure.

④ Describe the process that connects the structure and function using the following words.

Determines →

← **Depends on**

Functions

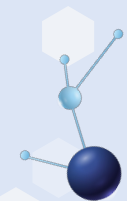
③ Describe the function.



Padlet

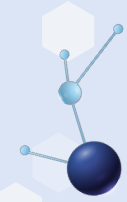
What do you know about Covid-19?





Padlet

What are some symptoms that people experience as an effect of Covid-19?



Clinical Case Study

Lets learn about some effects of Covid-19 through a clinical case study.

Case Study

1. Please read the case study to yourself the first time.
Do not mark the text.
2. Please read the case study to yourself a second time
and this time do mark the text.

Case Study

- Number each paragraph in the left margin. Be sure to label all of them, but don't count the title.
- Circle: Subjective Data
- Box/Bracket: Objective Data
- Underline the recommendations from the health care providers

Subjective vs. Objective Data



Subjective Data

- Verbally expressed emotions
- Backstory leading up to visit
- Cultural background
- Patient's or caregiver's description of ailment



Objective Data

- Vital signs
- Auscultations
- Visual observations
- Odors

Case Study

- Compare your markings with the person next to you.
- What did you mark that was the same?
- What did you mark that was different?
- Are there any changes you want to make?

Subjective vs. Objective Data



Subjective Data

- Verbally expressed emotions
- Backstory leading up to visit
- Cultural background
- Patient's or caregiver's description of ailment



Objective Data

- Vital signs
- Auscultations
- Visual observations
- Odors


Case Study

1. Let's read the case study together!
2. Following along to the slides, they match the case study (:

Case Study

1. Please complete the patient profile as we go through the case-study together.

Patient Profile



Patient's Name:

Biological Sex:

Age:

Chief Complain (This is similar to the situation):

Symptoms and Background Information:

Assessment:

Diagnosis:

Case Study: Max

Max is an 11-year-old boy who tested positive for Covid-19 on September 20, 2020.

Background



Case Study: Max

He began his 10 days isolation and despite initially having no symptoms and feeling quite well.

Max suddenly lost his taste and smell and everything he smelled or tasted was making him vomit.

Background



Case Study: Max

He started saying food was off and it continued to get worse.

He said “food tasted like sewage and water tasted like rotten eggs” and he would keep throwing up.

Situation



Case Study: Max

- Then all of a sudden he just stopped eating.
- He would look at his food and start gagging.

Situation



Case Study: Max

- He couldn't cope with the smells and physically couldn't eat.
- He became tired and cold all the time

Situation



Case Study: Max

What is Max's chief complaint?

**Chief
Complaint**



Case Study: Max

Max is unable to smell or taste and as a result he has not been able to eat

**Chief
Complaint**



Case Study: Max

What symptoms is Max experiencing?

Symptoms



Case Study: Max

Symptoms

What symptoms is Max experiencing?

- Loss of taste
- Loss of smell
- Vomiting
- Loss of appetite
- Tiredness
- Coldness
- Gagging



Case Study: Max

Max's mom Suzy was very concerned and scheduled a virtual appointment for Max with his primary care doctor.

When Max attended the virtual appointment he explained his symptoms to his doctor.

Situation



Case Study: Max

Max's mom Suzy was very concerned and scheduled a virtual appointment for Max with his primary care doctor.

When Max attended the virtual appointment he explained his symptoms to his doctor.

Situation



Case Study: Max

Due to his worsening symptoms, he was referred to an ENT (Ears, Nose, and Throat) doctor.

This new appointment took place in person and was scheduled a month after his initial positive Covid-19 test.

Situation



Case Study: Max

Due to his worsening symptoms, he was referred to an ENT (Ears, Nose, and Throat) doctor.

This new appointment took place in person and was scheduled a month after his initial positive Covid-19 test.

Situation



Case Study: Max

The ENT Doctor asked about Max's health history, including recent infections, current medications, and lifestyle factors

He also asked him to sniff different substances, and then describe the scent.

Assessment



Case Study: Max

Assessment

Sniff Test



Case Study: Max

What assessments did the doctor conduct on Max?

Assessment



Case Study: Max

Assessment

What assessments did the doctor conduct on Max?

- Health History
- Sniff Test



Case Study: Max

The doctor diagnosed Max with parosmia and prescribed him a steroid nasal spray.

Diagnosis



Case Study: Max

What is Parosmia?



Diagnosis



Case Study: Max

What is Parosmia?

Parosmia is a distorted sense of smell. It happens when smell receptor cells in your nose don't detect odors or transmit them to your brain.

Diagnosis



Case Study: Max

What is Parosmia?

People with parosmia may be unable to experience the full range of scents in their environment.

Or the odors they detect smell “wrong.”

For instance, warm cookies from the oven – which smell sweet and delicious to most people – might smell unpleasant and rotten to people with parosmia.

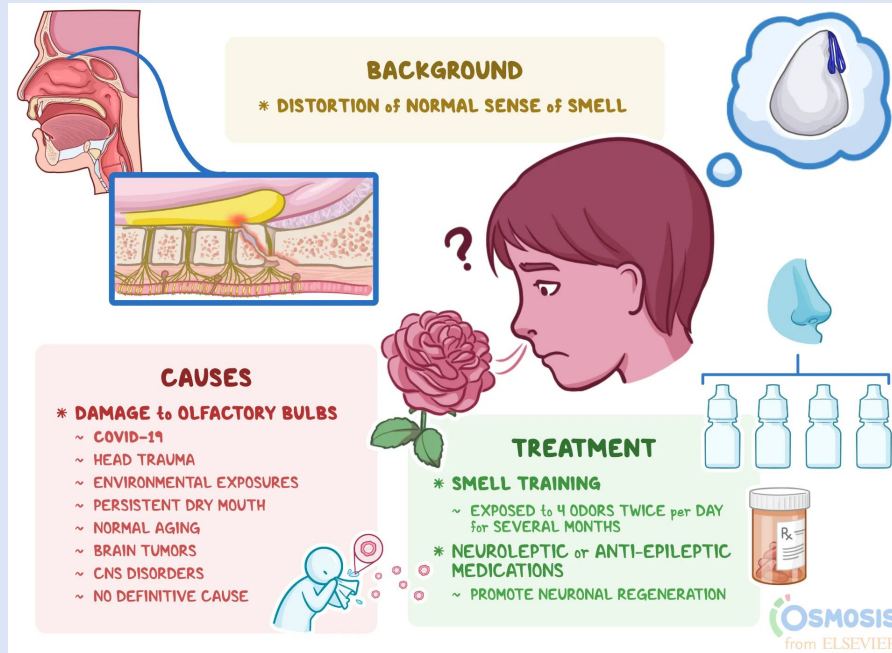
Diagnosis



Case Study: Max

What likely caused his Parosmia?

Diagnosis



The infographic is divided into several sections. At the top left, there is a diagram of the human head in profile, showing the nasal cavity and olfactory bulbs. Below it is a magnified view of the olfactory epithelium, showing olfactory receptor neurons with cilia extending into the mucus layer. To the right of this is a yellow box with the text 'BACKGROUND * DISTORTION of NORMAL SENSE of SMELL'. Further right is a thought bubble containing a single olfactory bulb. In the center, a woman with a question mark above her head is smelling a pink rose. To her right is a diagram of a nose with a line leading to a shelf containing four medicine bottles and a pill bottle. Below the woman is a green box with the text 'TREATMENT * SMELL TRAINING ~ EXPOSED to 4 ODORS TWICE per DAY for SEVERAL MONTHS * NEUROLEPTIC or ANTI-EPILEPTIC MEDICATIONS ~ PROMOTE NEURONAL REGENERATION'. To the left of the woman is a pink box with the text 'CAUSES * DAMAGE to OLFACTORY BULBS ~ COVID-19 ~ HEAD TRAUMA ~ ENVIRONMENTAL EXPOSURES ~ PERSISTENT DRY MOUTH ~ NORMAL AGING ~ BRAIN TUMORS ~ CNS DISORDERS ~ NO DEFINITIVE CAUSE'. At the bottom left of the infographic is a small cartoon figure of a person smelling a flower. At the bottom right is the logo for 'OSMOSIS from ELSEVIER'.

BACKGROUND
* DISTORTION of NORMAL SENSE of SMELL

CAUSES
* DAMAGE to OLFACTORY BULBS
~ COVID-19
~ HEAD TRAUMA
~ ENVIRONMENTAL EXPOSURES
~ PERSISTENT DRY MOUTH
~ NORMAL AGING
~ BRAIN TUMORS
~ CNS DISORDERS
~ NO DEFINITIVE CAUSE

TREATMENT
* SMELL TRAINING
~ EXPOSED to 4 ODORS TWICE per DAY for SEVERAL MONTHS
* NEUROLEPTIC or ANTI-EPILEPTIC MEDICATIONS
~ PROMOTE NEURONAL REGENERATION

OSMOSIS
from ELSEVIER

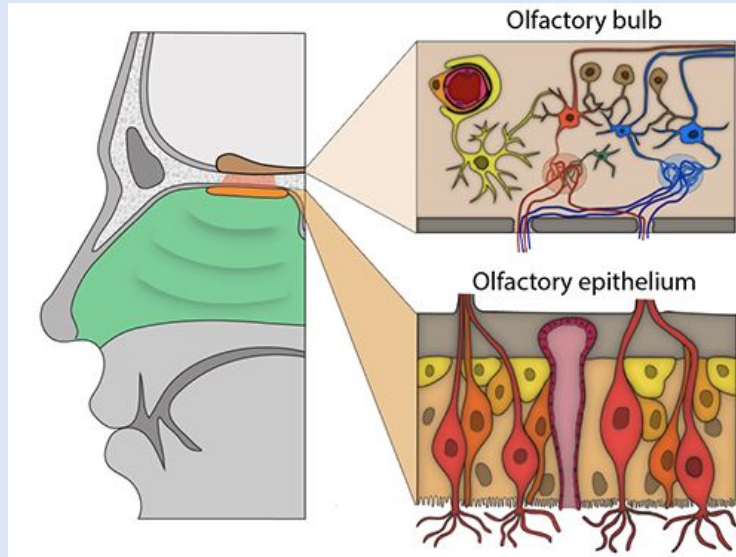


Case Study: Max

What likely caused his Parosmia?

Covid-19 Infection leading to damage to the olfactory bulb?

Diagnosis



Case Study: Max

What treatment did the doctor give Max?

Intervention



Case Study: Max

Intervention

What treatment did the doctor give Max?

A steroid nasal spray to clear up nasal passages.

Other Possible Treatments

Smell training therapy

Certain antiepileptic medications

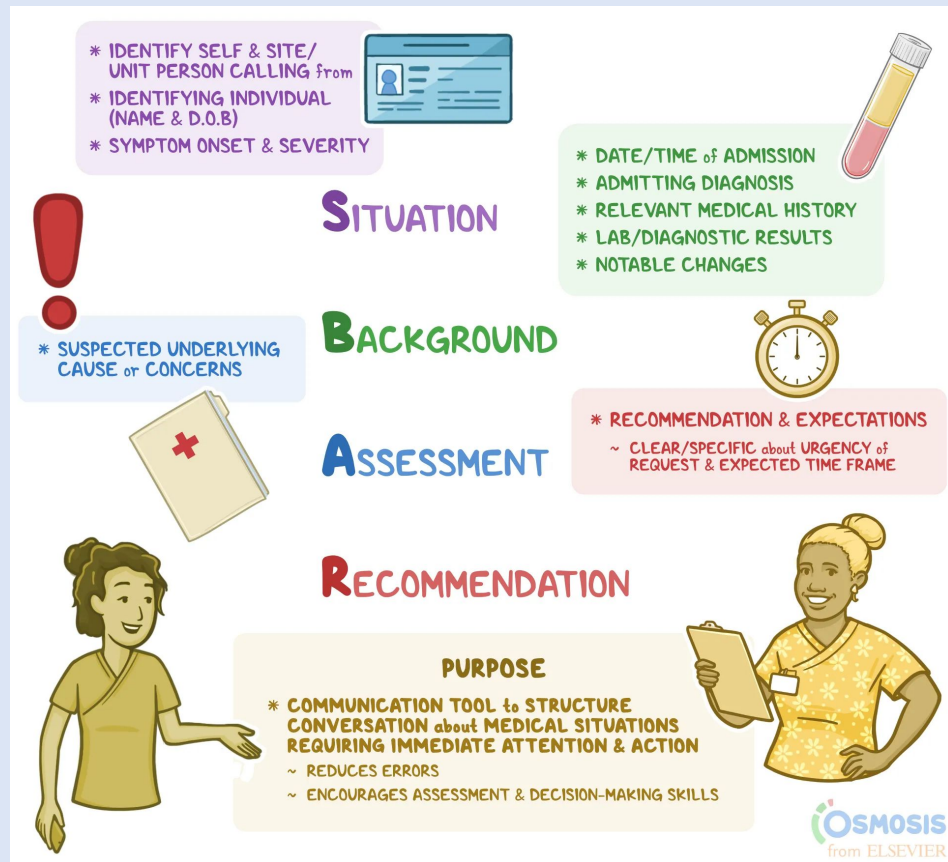
Surgery



Case Study

SBAR

- Situation: What is happening
- Background: Information about the patient
- Assessment: Findings
- Recommendation: What did the Healthcare Provider Recommend



Case Study

- SBAR
 - Stand up and partner up with someone who is NOT sitting at your table and share your SBAR with them!
 - Pretend you are handing off this patient to them.



Case Study

1. With your table group, answer the review questions at the end of the case-study.
2. We will go over them together as a class after

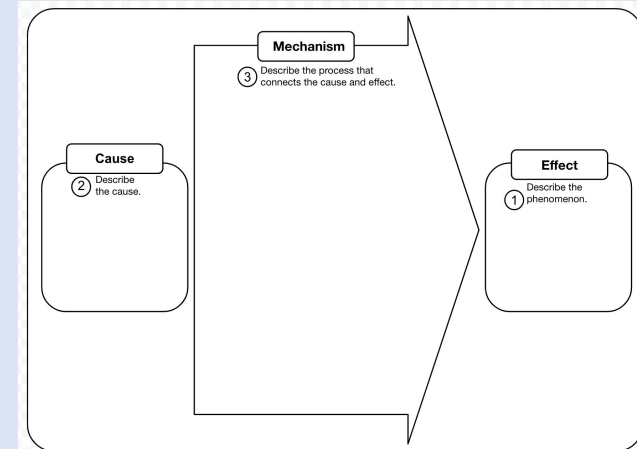
Cause, Mechanism, Effect

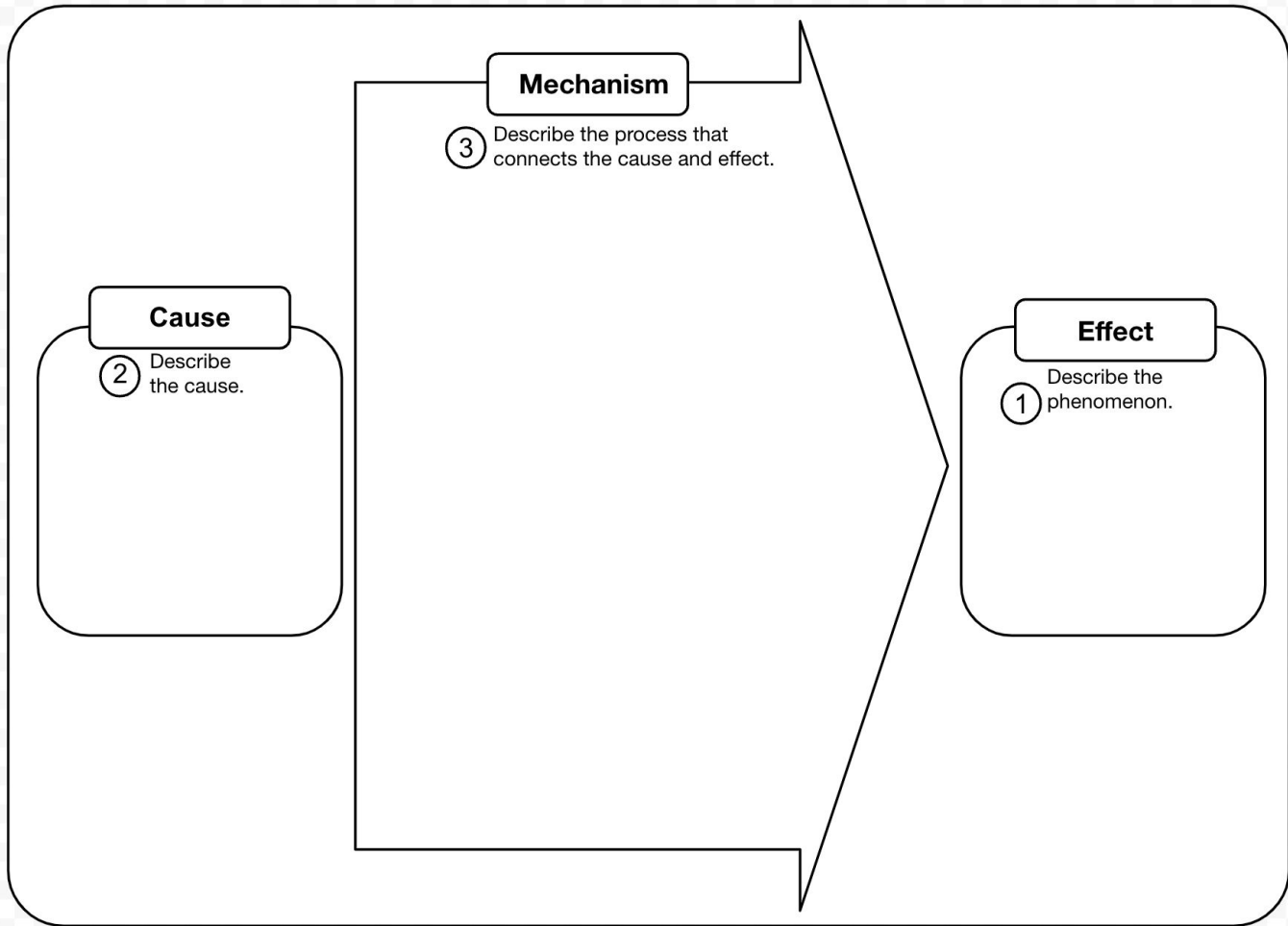
What is the effect of **Parosmia**?

What is the cause of Parosmia?

What is the Mechanism of Parosmia

Add the information on the graphic organizer.





What happened to Max?



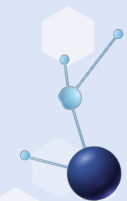
What happened to Max?





Cause, Mechanism, Effect

Base on the 2 video, are there any changes you want to make?



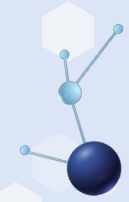
Exit Ticket

How is Paromia a neurological symptom of long Covid-19?



Day 2





Padlet

Besides parosmia, how else does COVID-19 affect the nervous system?



COVID-19 beyond Smell and Taste

Long COVID

Group of symptoms in multiple organs which may be new in onset or persist after SARS-CoV-2 infection

Neurological: 13 out of 25 symptoms included in the 2021 WHO clinical definition of long COVID

Between 3 and 8 out of 12 outcomes included in a new study from 2022

OMS

* Identified by the WHO and 5 analyses of:

1,591 scientific articles and **144** studies

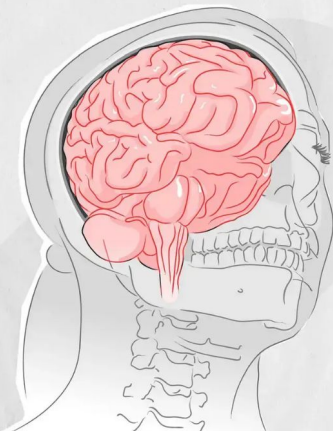
Neuropsychiatric symptoms

- Fatigue
- Brain Fog
- Anxiety / Depression
- Emotions and mood issues
- Suicidal thoughts
- Psychotic disorders

Cognitive function

- Cognitive dysfunction
- Attention deficit
- Memory issues
- Difficulty understanding instructions
- Difficulty with speech or language
- Dementia

Long COVID:
25 symptoms and neurological outcomes
In patients who suffered from severe COVID and/or asymptomatic individuals*



Nervous system

- Brain inflammation
- Headache and muscle pain
- Seizures / Fainting
- Loss of balance
- Inability to move body parts
- Tremors / Spasms
- Cerebrovascular accidents / Intracranial hemorrhage

Neuroimmune diseases

- Guillain-Barré syndrome - Myelitis
- Encephalomyelitis

Long COVID also affects:



Heart



Digestive system



Lungs



Skin



Kidneys



Immune and endocrine systems

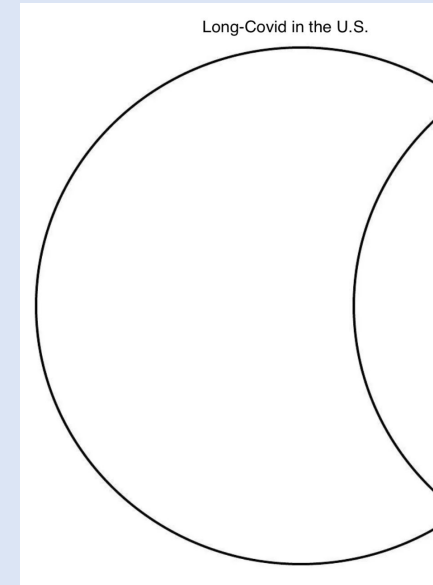
Compiled with information from the WHO, U.S. CDC, U.S. GAO, Elsevier, Journal of Neurology, Guarantors of Brain, Nature, and JAMA Network Open.

Long COVID-19 in the U.S.



Leading researcher breaks down first-ever Long COVID Congressional hearing

How is the U.S. dealing with Long-Covid



Long COVID-19 beyond the U.S.

While patients in the U.S. are affected by long-covid symptoms, so are patients in other parts of the world.

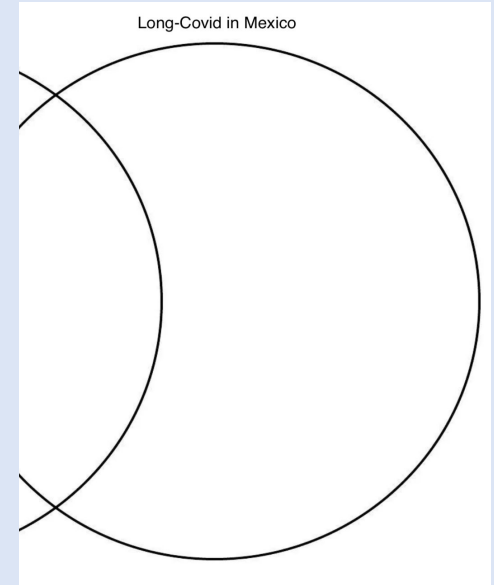


Long COVID-19 beyond the U.S.



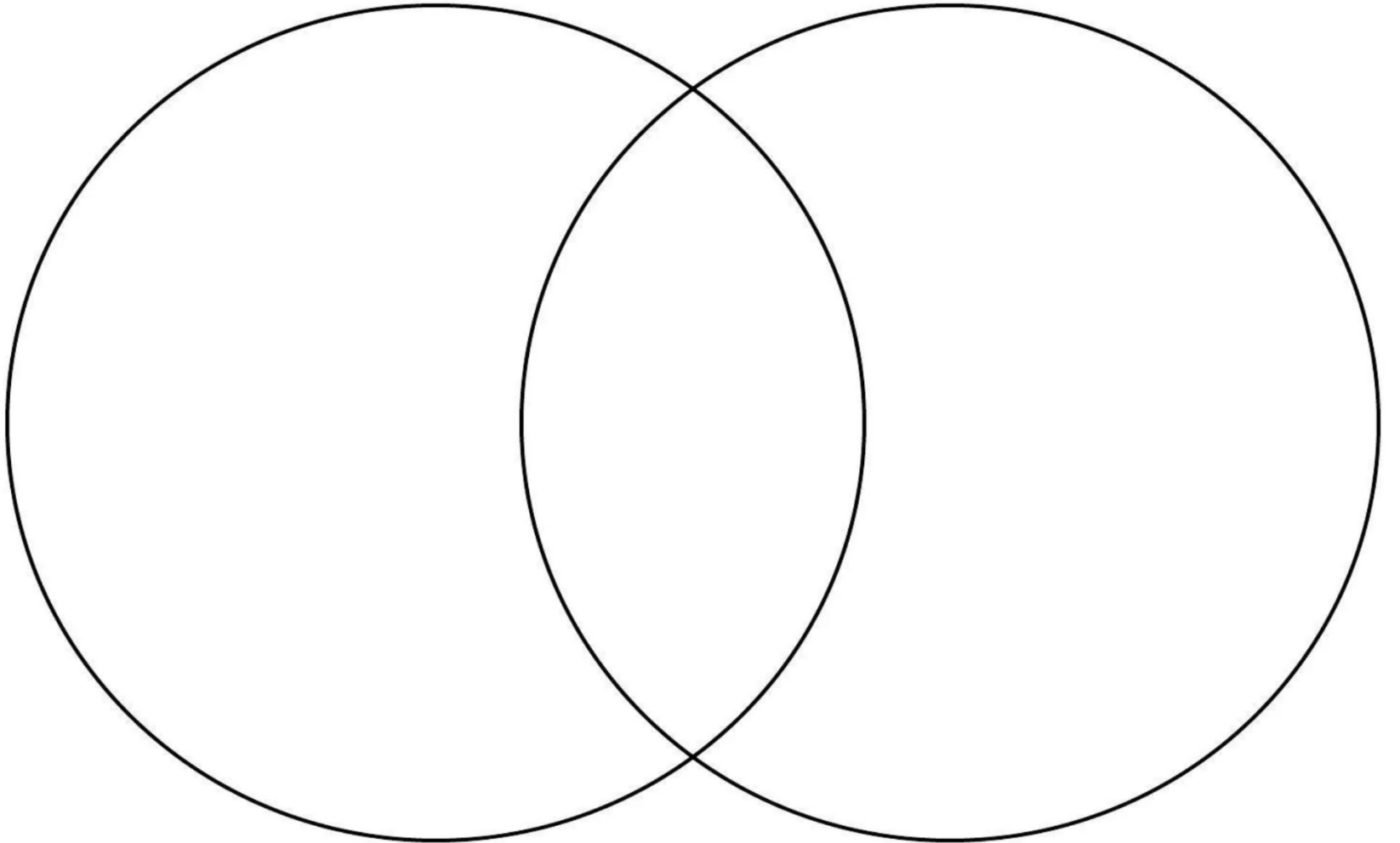
Struggling with long COVID neurological effects in Mexico

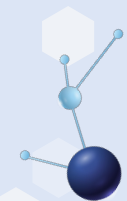
How is Mexico dealing with Long-Covid



Long-Covid in the U.S.

Long-Covid in Mexico





Long COVID-19

- What was unique to each country?
- What is different?
- In your opinion, which country is handling the situation better? Why



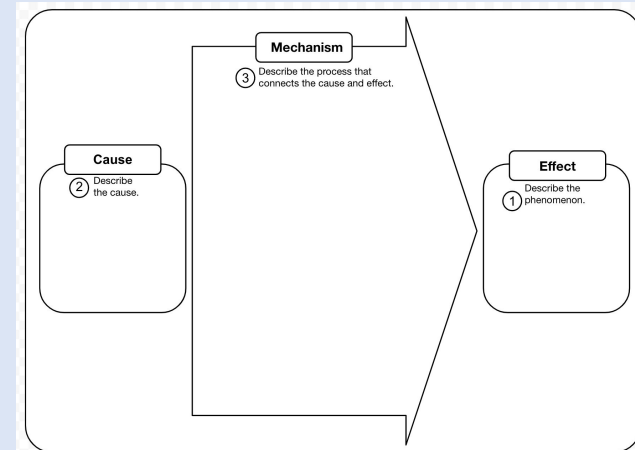
Cause, Mechanism, Effect

What is the effect of **Long-Covid Neurological Symptoms**?

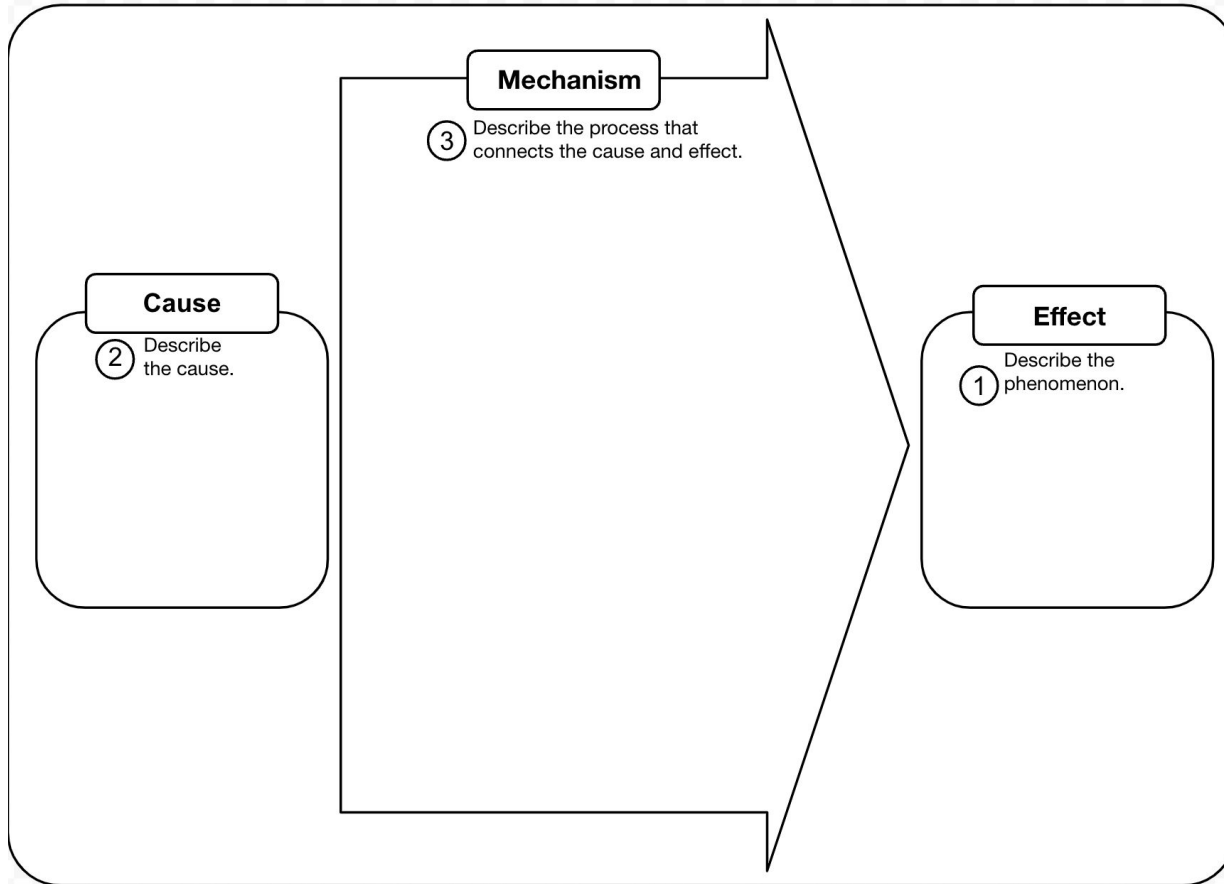
What is the cause of **Neurological Symptoms** ?

What is the Mechanism of **Neurological Symptoms**?

Add the information on the graphic organizer.



Long Covid-19: Neurological Symptoms





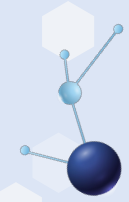
Disease Project

1. For this project, you will raise awareness of the impact of Long Covid-19 on the Nervous System.
- 2.
3. You will use Google Presentations, Canva, or Notability to create a one-pager.
- 4.
5. You may complete your project in either English or Spanish.

Rubric

Make sure to follow the rubric as you complete your project.

Rubric	Points Possible	Points Earned
Title	1	
Explanation of the disease (What is the disease in your own words)	2	
Causes of the disease	1	
Pathophysiology of the disease (How does it affect the body)	1	
Symptoms of the disease	1	
Treatment options for the disease	1	
At least 1 image or diagram that relates to the information on the one pager.	1	
Citations in APA format at the bottom of the one pager with a minimum of 3 references. If you use an image from the internet you must also cite where you get it from.	1	
Overall creativity, effort, and attention to detail. <ul style="list-style-type: none">• Same font throughout or fonts that match and compliment each other• Organized layout with appropriate spacing throughout• Appropriate color scheme. Ex: No blue font on blue background or white font that is hard to see.• No spelling or grammar errors	1	



Exit Ticket

Why it important to raise awareness of Long-Covid neurological symptoms?





Day 3

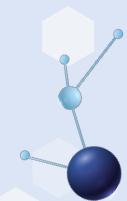




Pair Share



1. Turn to your neighbor and share your progress on the project so far.
2. What is going well?
3. What do you still need help with?

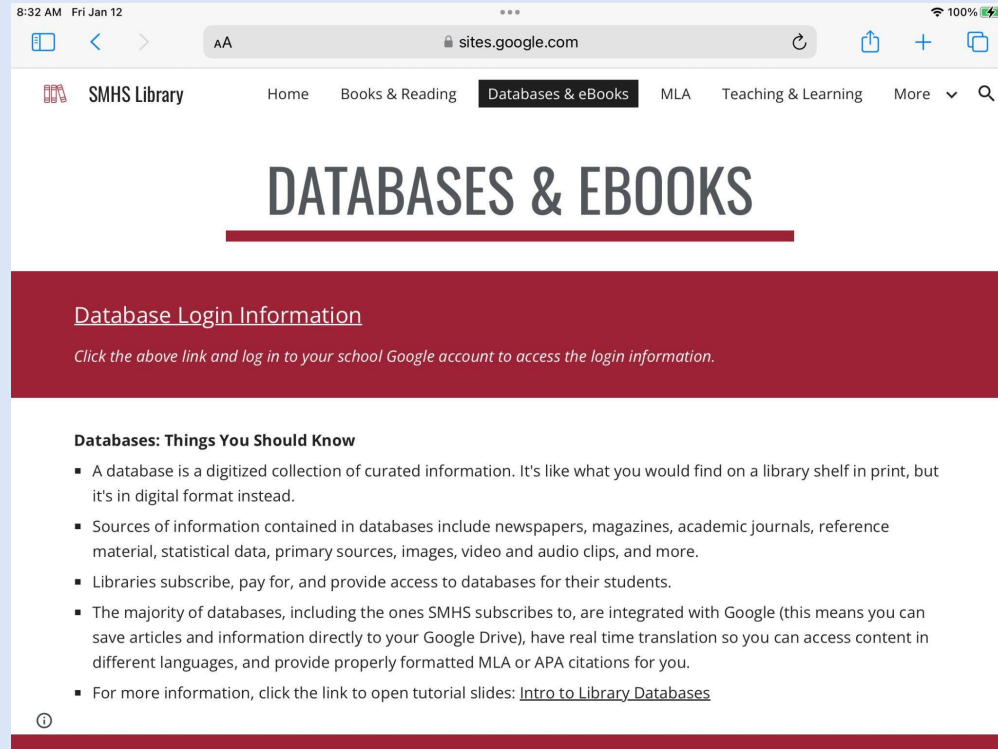


Library Visit

- 1. We will be heading to the library to continue working on research for the project.**

Library Research Quick Review

Google SMHS Library > Choose Databases & eBooks



8:32 AM Fri Jan 12

sites.google.com

SMHS Library Home Books & Reading **Databases & eBooks** MLA Teaching & Learning More

DATABASES & EBOOKS

[Database Login Information](#)

Click the above link and log in to your school Google account to access the login information.

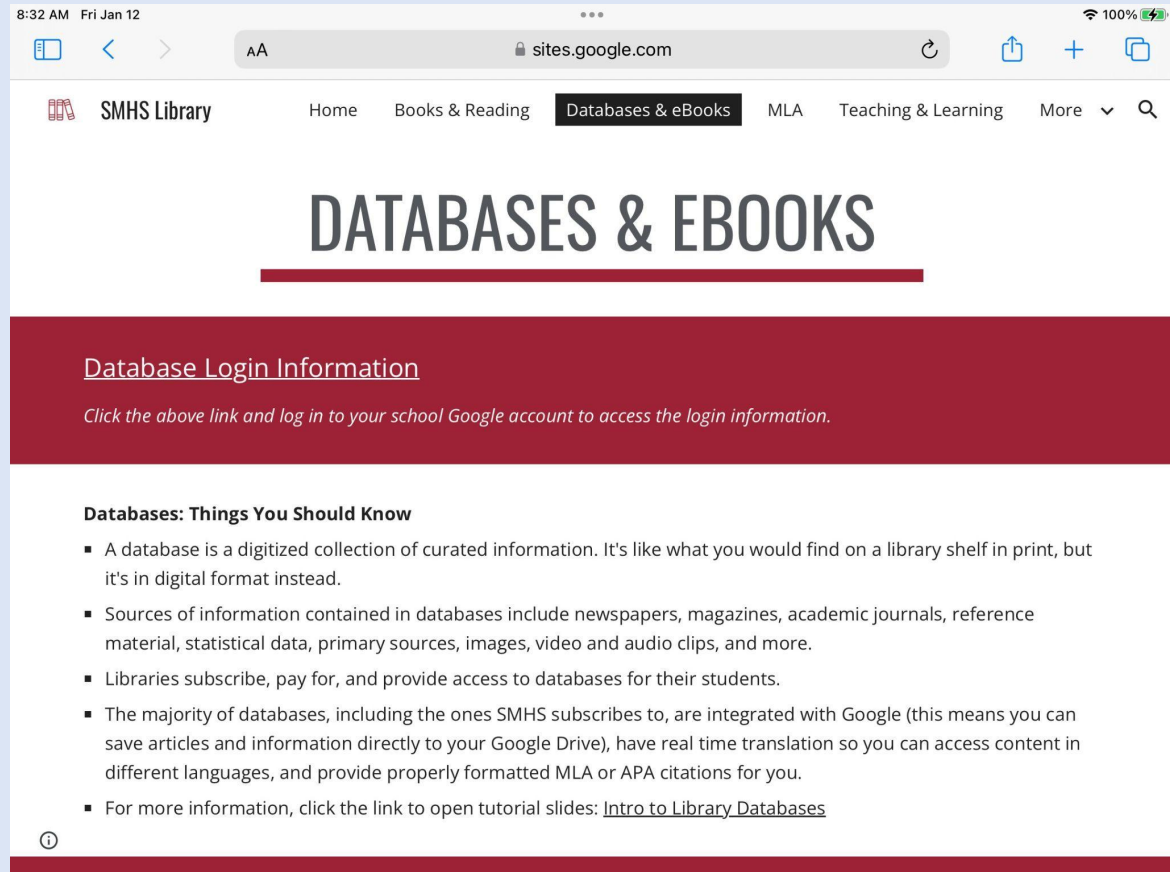
Databases: Things You Should Know

- A database is a digitized collection of curated information. It's like what you would find on a library shelf in print, but it's in digital format instead.
- Sources of information contained in databases include newspapers, magazines, academic journals, reference material, statistical data, primary sources, images, video and audio clips, and more.
- Libraries subscribe, pay for, and provide access to databases for their students.
- The majority of databases, including the ones SMHS subscribes to, are integrated with Google (this means you can save articles and information directly to your Google Drive), have real time translation so you can access content in different languages, and provide properly formatted MLA or APA citations for you.
- For more information, click the link to open tutorial slides: [Intro to Library Databases](#)

ⓘ

Skim Databases Page & QUICK QUIZ

Things You Should
know
Login information
Types of databases



The screenshot shows a web browser window displaying the SMHS Library website. The page title is "Databases & eBooks". The navigation menu includes "Home", "Books & Reading", "Databases & eBooks" (which is highlighted), "MLA", "Teaching & Learning", and "More". The main content area features a red banner with the text "Database Login Information" and a sub-header "Databases: Things You Should Know". Below this, there is a list of five bullet points explaining databases and providing information on how to access them.

8:32 AM Fri Jan 12

AA sites.google.com

SMHS Library Home Books & Reading **Databases & eBooks** MLA Teaching & Learning More

DATABASES & EBOOKS

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Click the above link and log in to your school Google account to access the login information.

Databases: Things You Should Know

- A database is a digitized collection of curated information. It's like what you would find on a library shelf in print, but it's in digital format instead.
- Sources of information contained in databases include newspapers, magazines, academic journals, reference material, statistical data, primary sources, images, video and audio clips, and more.
- Libraries subscribe, pay for, and provide access to databases for their students.
- The majority of databases, including the ones SMHS subscribes to, are integrated with Google (this means you can save articles and information directly to your Google Drive), have real time translation so you can access content in different languages, and provide properly formatted MLA or APA citations for you.
- For more information, click the link to open tutorial slides: [Intro to Library Databases](#)



 GALE IN CONTEXT

HIGH SCHOOL



Gale in Context High School:

Newspaper & magazine articles, reference articles, images, videos, and more (on almost any topic)

 GALE

GALE EBOOKS



Gale eBooks: Reference articles (for general information) from books on almost any topic

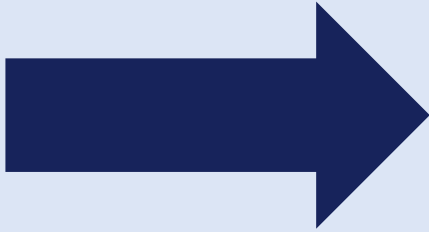


Good for symptoms but not treatment

Good for current news / treatments



Gale in Context: High School



 GALE IN CONTEXT

**HIGH
SCHOOL**



Gale in Context High School:

Newspaper & magazine articles,
reference articles, images, videos, and
more (on almost any topic)



GALE IN CONTEXT High School



- diabetes type 1
- diabetes type 1 diabetes
- diabetes type 2 diabetes
- diabetes mellitus type 1
- diabetes type ii
- diabetes type 2 diabetes mellitus
- type 1 diabetes t1d
- diabetes mellitus type 2
- diagnosed with type 1 diabetes
- diseases and conditions type 1 diabetes
- metabolic diseases and conditions type 1 diabetes

Hispanic Heritage Month

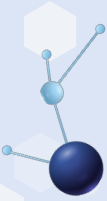


Key words

Synonyms

Drop down

Thumbnail
Image!



2. Types of Sources (Gray Bar)

diabetes type 1



Advanced Search



Browse Topics



Topic Finder



Search History



Get Link



Highlights And

Home > Results

SHOWING RESULTS FOR

All Content Types

Reference (12)

Images (5)

Videos (18)

Audio (16)

Magazines (675)

News (6,235)

Academic Journals (3,095)

ALL CONTENT TYPES

Search Terms: Basic Search: diabetes type 1 [Revise Search](#)

Applied Filters: **Full Text**

REFERENCE (12)

Introduction

From: National Institute of Diabetes & Digestive & Kidney Diseases Pamphlets

2007 114 words Brief article 980L

Your doctor says you have diabetes. This booklet will help you learn how to take care of your diabetes and how to prevent

FILTER YOUR RESULTS

Publication Date	Subjects	Document type
Publication title	Newspaper sections	Lexile measur
Content Level	Search Within	

- Full text documents
- Leveled documents
- Peer-reviewed journals

TOPIC FINDER

Discover topics and results related to your search

How to Choose a Source

REFERENCE (12)

Introduction

From: National Institute of Diabetes & Digestive & Kidney Diseases Pamphlets

2007 114 words Brief article 980L 

Your doctor says you have diabetes. This booklet will help you learn how to take care of your diabetes and how to prevent some of the serious problems that diabetes can cause. We wrote this booklet with help from people...

Type 2 Diabetes

From: Gale In Context Online Collection

2023 1,071 words Disease/Disorder ove... 1260L 

Type 2 diabetes is a disease that affects how the body regulates and uses glucose (sugar). With this type of diabetes, the pancreas does not produce enough insulin, a hormone that regulates the movement of glucose into...

Hypoglycemia

From: World of Health

2007 666 words Disease/Disorder ove... 1320L 

The condition called hypoglycemia is literally translated as low blood sugar. Hypoglycemia occurs when blood sugar (or blood glucose) concentrations fall below a level necessary to properly support the body's need for...

[View All 12 Reference](#)

3. Cite


GALE IN CONTEXT High School


Results Advanced Search



Cite Send To... Download Print Get Link Highlights






Home > Results > Document






Maryland Teen Designs App To Help Families Dealing With Type 1 Diabetes

 **Date:** 2020

 **From:** [Morning Edition](#)
Publisher: National Public Radio, Inc. (NPR)

 **Document Type:** Audio file; Broadcast transcript
Length: 409 words
Content Level:  (Level 3)
Lexile Measure: 990L

To listen to this broadcast, click here:

[Play Audio](#)

EXPLORE

More Like This

[Diabetes App Market Report 2014](#)
PR Newswire, Feb. 27, 2014.

[Tandem Diabetes Care Launches t:simulator\(TM\) Demonstration App](#)
PR Newswire, Feb. 20, 2015.

[AgaMatrix's WaveSense Diabetes App To Offer dLife](#)

Copy & Paste Citation

CITATION TOOLS ✕







MLA 9th Edition **APA 7th Edition** Chicago 17th Edition Harvard

In Type 1 Diabetes, daily insulin injections are necessary to regulate insulin in the body. The... [Photograph]. (2021). K. H. NemeH & J. L. Longe (Eds.), The Gale Encyclopedia of Science (6th ed., Vol. 4). Gale. <https://link.gale.com/apps/doc/PC8124487622/SUIC?u=sant89825&sid=bookmark-SUIC&xid=efe3e9d6>

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Export To:

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*The RIS file format can be used with EndNote, ProCite, Reference Manager, and Zotero.

4. Send to Drive

< Results Search... Advanced Search

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Maryland Teen Designs App To Help Families Dealing With Type 1 Diabetes



Date: 2020



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EXPLORE

More Like This

[Diabetes App Market Report 2014](#)
PR Newswire, Feb. 27, 2014.

[Tandem Diabetes Care Launches t:simulator\(TM\) Demonstration App](#)
PR Newswire, Feb. 20, 2015.

[AgaMatrix's WaveSense Diabetes App To Offer dLife](#)

To listen to this broadcast, click here:

Play Audio

Filtering Results

SHOWING RESULTS FOR

All Content Types

Reference (7)

Videos (14)

Audio (5)

Magazines (396)

News (3,776)

Academic Journals (155)

ALL CONTENT TYPES

Search Terms: Basic Search: Psoriasis [Revise Search](#)

Applied Filters: **Full Text** ✕

REFERENCE (7)

Psoriasis

From: [World of Health](#)

2007 1,720 words Disease/Disorder ove... 1240L

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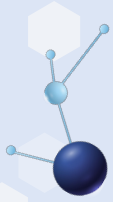
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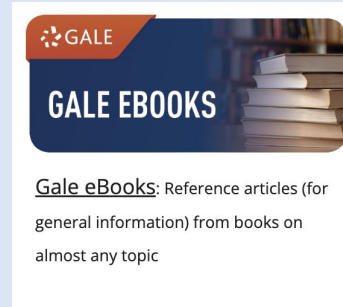


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