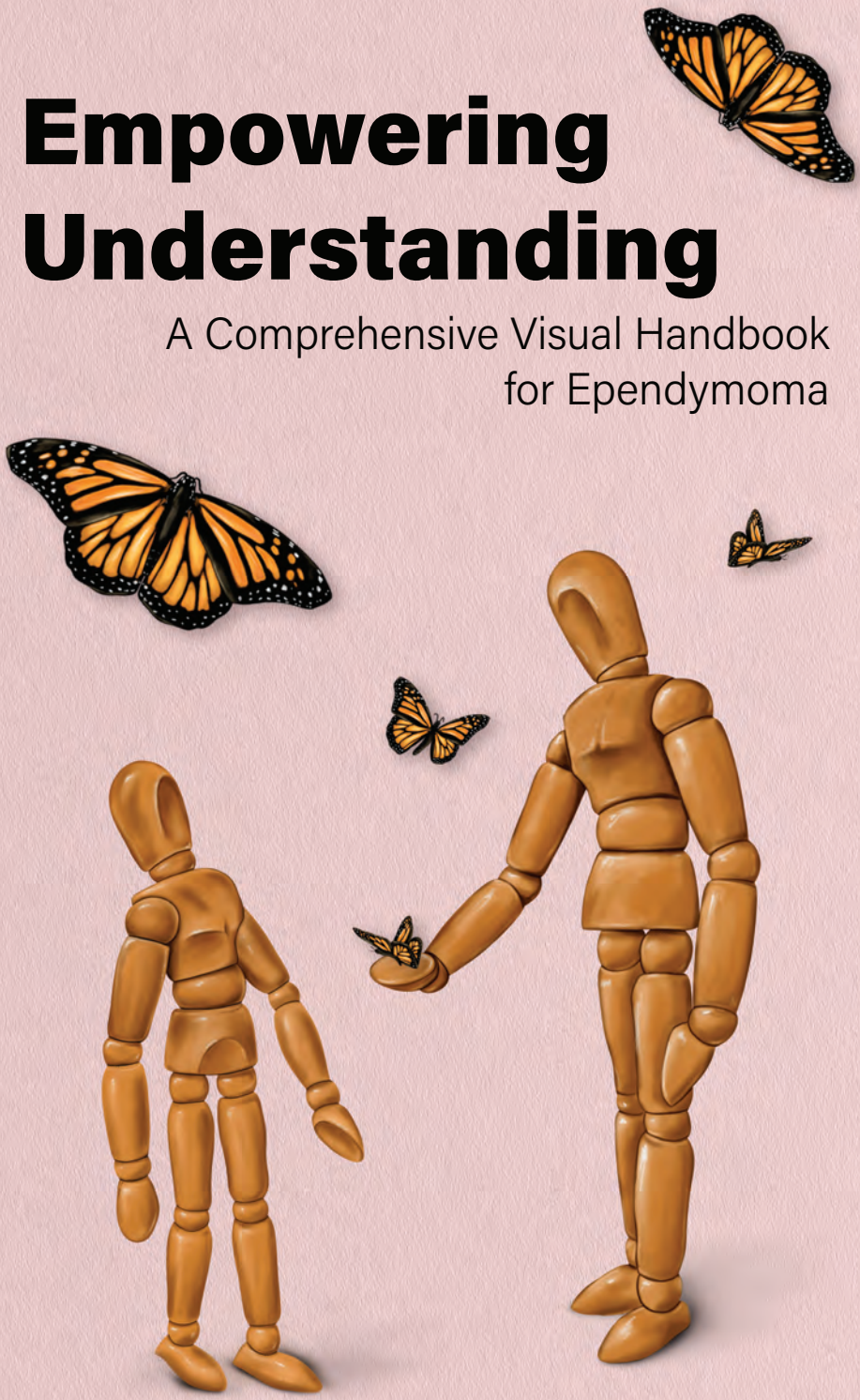
Empowering Understanding

A Comprehensive Visual Handbook for Ependymoma



Written and Illustrated by **Lilly Oldham**

CONTRIBUTORS

Thomas Nowacki, MFA, CMI
The Cleveland Institute of Art
Medical Illustrator
Chair and Professor of Life Sciences Illustration

Beth Halasz, MFA, CMI
The Cleveland Institute of Art
Medical Illustrator
Professor of Life Sciences Illustration

Stephen C. Mack, PhD
St. Jude Children's Research Hospital
Developmental Neurobiologist
Principal Investigator of Mack Lab

Kelsey C. Bertrand, MSc, MBBS, FAAP
St. Jude Children's Research Hospital
Neuro-Oncologist
Clinician Scientist of Mack Lab

Kim Wallgren
Collaborative Ependymoma Research Network (CERN) Foundation
A Program of the National Brain Tumor Society
Executive Director

Heather Held
Pediatric Brain Tumor Foundation
Director of Family Support

DEDICATION

To the siblings of cancer warriors: your voice is heard and you are not alone. This is an incredibly difficult position to be in, but it is important to allow yourself to feel your emotions and understand that while you are not the face of this fight, you are still an important piece of the puzzle and your grief and emotions are valid. Cancer is something that happens to a family, not just an individual, so give yourself grace, take care of yourself, and know that people are thinking of you and rooting for you. I know I am.

OVERVIEW

This handbook is a resource for those diagnosed with ependymoma, as well as their caregivers, family, and friends seeking an understanding of this complex disease. The goal of this guide is to act as an introductory resource to ependymoma and many of the terms that may be heard throughout appointments with medical professionals.

Broken into four chapters, this resource breaks down information by the generalized tumor locations and gives an overview of the ten classifications. In the "Reading Scans" section, a variety of illustrated scans (CT, MRI, PET) are used to explain the differences between the types of imaging that may be introduced, as well as what each type is used for.

Empowering Understanding: A Comprehensive Visual Handbook for Ependymoma can be used as supplemental reference material to what may be further provided by doctors or members of the medical team and is not meant to act as medical advice of any kind.

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The Basics

Terms to Know

The Medical Team

Throughout the diagnostic, treatment, and care process for ependymoma, you are likely to interact with several medical professionals. All of these people have different jobs and purposes, so it is important to keep track of who everyone is and how they are helping you!

"Histo" = relating to tissue

"Laryng" = larynx, or voice box

"Neuro" = relating to nerves or the nervous system

"Onco" = relating to tumors

"Ophtha" = eye or relating to the eye

"Oto" = ear or relating to the ear

"Patho" = relating to disease

There are more doctors, scientists, and other professionals involved when it comes to your care, the specialties listed here are just the ones you are most likely to interact with or hear about!

Audiologist
Experts who specialize in the treatment of hearing and balance disorders

Neuro-oncologist
An oncologist who specializes in the nervous system (cancer of the brain and spinal cord)

Neuropathologist
A pathologist with specialization in tissues of the brain and spinal cord

Neurosurgeon
A specially trained medical doctor who performs surgery on the brain and spinal cord

Oncologist
A medical professional who specializes in the care and treatment of people diagnosed with cancer

Ophthalmologist
A medical doctor who specializes in eye and vision treatments

Otolaryngologist
A medical professional who specializes in surgery of the head and neck (also known as an ENT)

Pathologist
A medical professional who studies tissue and performs lab tests. They are often involved in diagnostic processes through biopsies

Radiation oncologist
A doctor who specializes in the treatment of cancer with radiation therapy

The Basics

Terms to Know

More Terms You May Hear

As you go through appointments and meetings with your medical team, you will likely hear a lot of unfamiliar terms and phrases. Some important ones to learn are listed here, and others will be explained throughout the rest of this guide!

The words and phrases listed on these two pages are specific to cancer care. Much of this language is used by doctors to describe tumors or the state of your condition, and they will likely be heard frequently.

Benign

A condition that is not cancerous, meaning it does not grow quickly or spread to other parts of the body

Classification

A way of grouping tumors based on the things they have in common (this can help guide decision-making when it comes to treatment)

Encapsulated

Confined to a specific area and surrounded by a thin layer of tissue

Grade

A description of a tumor based on what the cells look like under a microscope and how quickly they grow and/or spread

Metastasize
To spread from one part of the body to another

Mutation
Any change in the DNA sequence of a cell

No Evidence of Disease (NED)
No signs of cancer being found after treatment

Primary Central Nervous System Tumor
Refers to a tumor that began in the brain or spinal cord, rather than a tumor somewhere else in the body that has spread to the brain

Relapse
The return of a disease after some time of improvement or lack of changes

Remission
A decrease or disappearance of signs of cancer

Secondary Central Nervous System Tumor
A tumor in the brain or spinal cord that is a result of cancer in another part of the body spreading to the nervous system

Stable Disease
Cancer that is not shown to shrink but does not show signs of growing or spreading

The Basics

Terms to Know

The terms and phrases in this section are related to surgery and treatment. These will often be heard before and/ or after surgery to explain the removal of tumors, or what happens to the tissue after it has been removed!

Biomarker
Something found in body fluids or tissues that may represent or help classify a disease such as cancer (also called molecular markers)

Biopsy
Removal of cells or tissue for further testing

Debulk
Partial removal of a tumor with surgery

Gross Total Resection (GTR)
Complete and total removal of all tumor tissue that can be seen on an MRI scan

Histology
The study of tissues and cells under the microscope

Imaging
A process that takes pictures of inside the body

Resection
Surgery to remove tissue, such as a tumor

Subtotal Resection
Partial removal of tumor tissue

The following terms relate to medical care and are more related to side effects that may be experienced!

Aphasia
The loss of ability to communicate (speaking, writing, understanding language, etc.)

Asymptomatic
Not showing any sign of disease or disorder

Bilateral
Occurring on both sides of the body

Cognition
The process of thinking, learning, remembering, being aware of surroundings, and using judgment

Gross Motor Skills
The ability to control the muscles involved in movement of the arms, legs, and other part of the body for movement such as standing, sitting, crawling, and walking

Necrosis
Death of living tissues

Neuropathy
A nerve problem that causes pain, numbness, tingling, swelling, or muscle weakness in the body

The Basics

Terms to Know

Pediatric-Specific Terms

The following few terms are related to the treatment and care of pediatric patients. While many of the specialists working with adult patients are also able to assist in the treatment of children and young adults, there are additional specialists and concepts involved in their care to ensure all needs are met!

Certified Child Life Specialist (CCLS)

A professional who provides insight to children and their families when it comes to preparing for and understanding their diagnosis, treatment, coping tools, and much more! These specialists work with the rest of the medical team and focus on the comfort of pediatric patients and their families

Medical Social Worker

A professional who works alongside a medical team to assist patients and their families with the transition into a medical environment

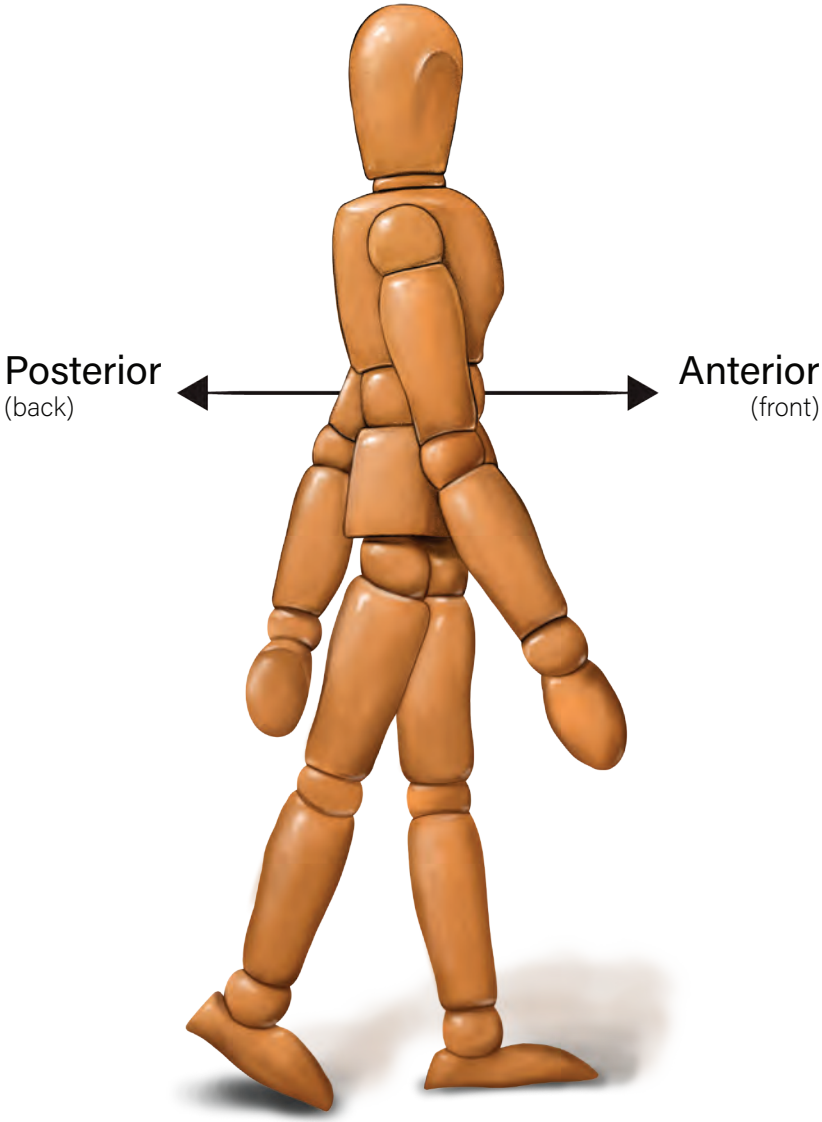
Pediatric Palliative Care

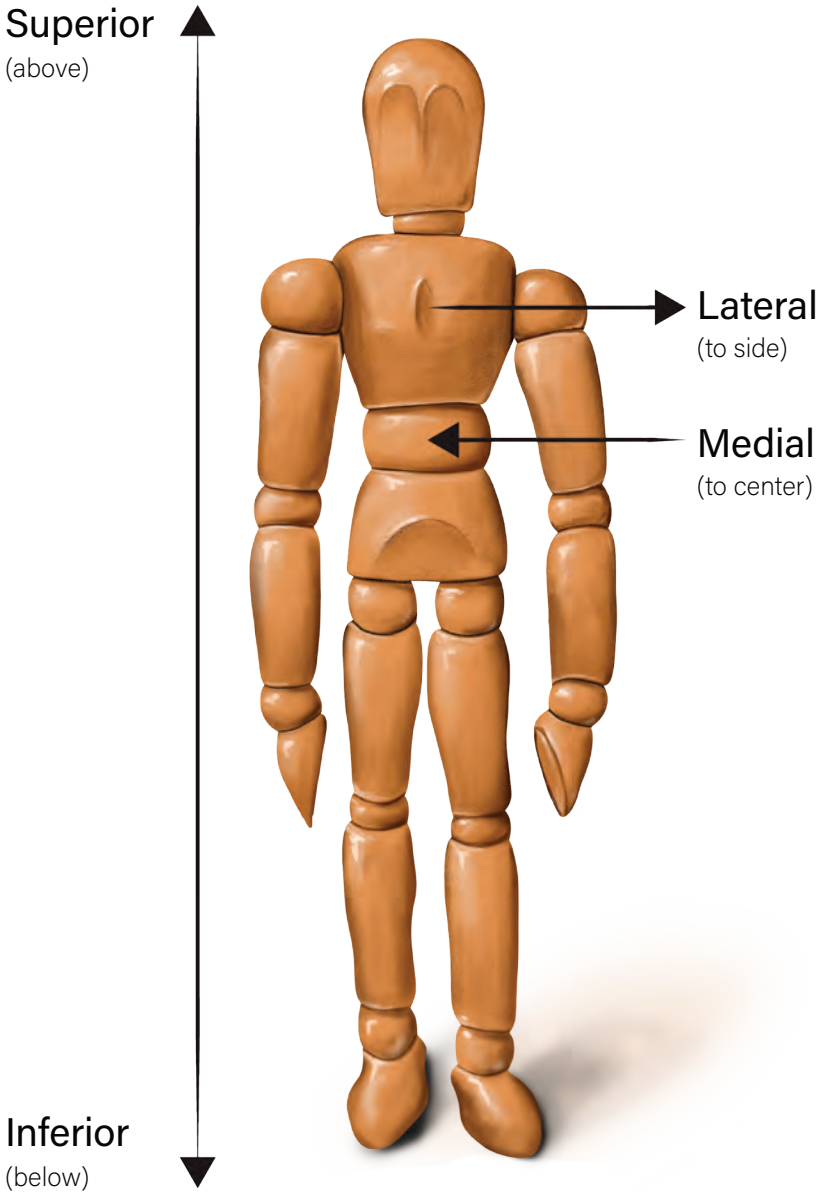
A medical specialty that focuses on the comfort and quality of life of young patients with severe diseases


CCLS

The Basics

Anatomical Directions




Superior
(above)
Lateral
(to side)
Medial
(to center)
Inferior
(below)

The Basics

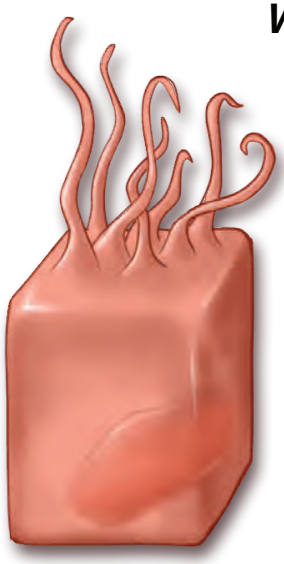
An Introduction to Ependymoma

What is ependymoma?

"uh-pen-duh-mow-mah"

Ependymal tumors, also known as **ependymoma**, are rare tumors of the **central nervous system (CNS)**. These tumors originate from ependymal cells and are found almost exclusively in the brain or spine.

Brain cancer and tumors are represented through grey ribbons, and the symbol for ependymoma is the monarch butterfly!

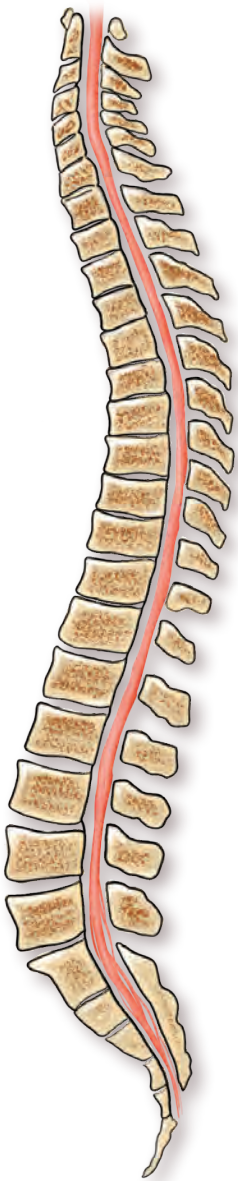


What are ependymal cells?

"uh-pen-duh-mahl"

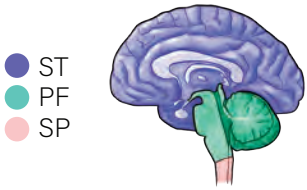
Ependymal cells are a type of **glial cell** that come together to form a thin layer of tissue known as the **ependyma**. This membrane lines the **ventricles** (see pages 19 and 21) of the brain and the central canal of the spinal cord. These cells help produce and circulate **cerebrospinal fluid (CSF)**, which produces nutrients for the nervous system and plays many roles in ensuring healthy brain function.

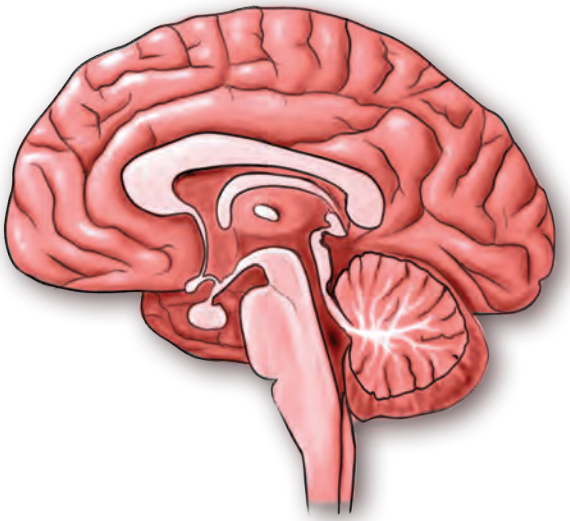
Where can these tumors be found?



Ependymal tumors are organized into three specific locations:

supratentorial (ST)
posterior fossa (PF)
spinal cord (SP)



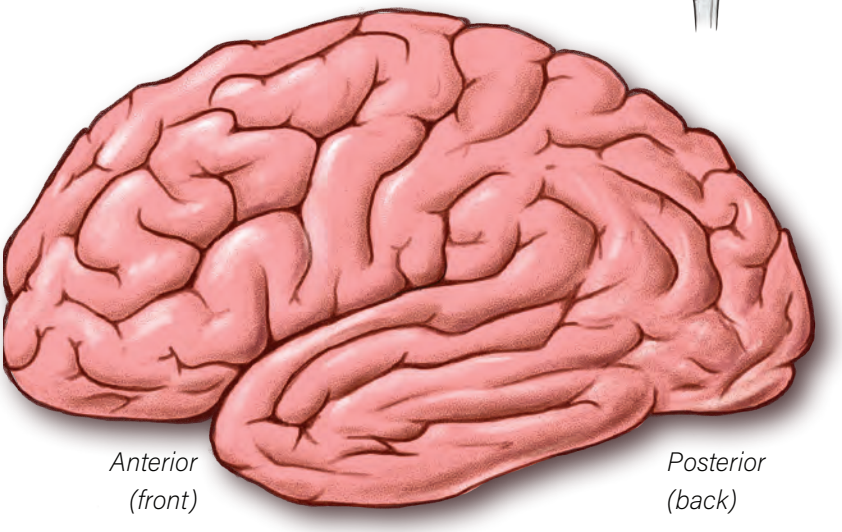


Structures and Functions

Supratentorial Anatomy

Supratentorial

"soo-pruh-ten-tor-rhee-uhl"



Cerebrum

"suhr-ee-brum"

The upper part of the brain, which is known as the **cerebrum** (or telencephalon), is split into two sections called **hemispheres** (the left is seen above). These hemispheres, right and left, are further broken down into four sections called **lobes**. Each of these lobes has specific jobs that work together to make your body do its thing!

Lobes of the Brain

Frontal

The largest of the four, the frontal lobe has many jobs. Some of these functions include problem-solving, impulse control, and voluntary movement.

Temporal

Known best for helping us hear, the temporal lobe also plays a role in understanding language, as well as when it comes to long-term memory and reading!

Parietal

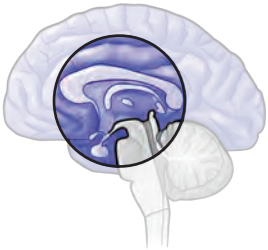
Located in the back upper part of the brain, the parietal lobe takes information from nerves and translates it into the things we feel and see.

Occipital

The occipital lobe, with the word "occipital" referring to the location in the back of the head, is tasked with helping us understand what we see!

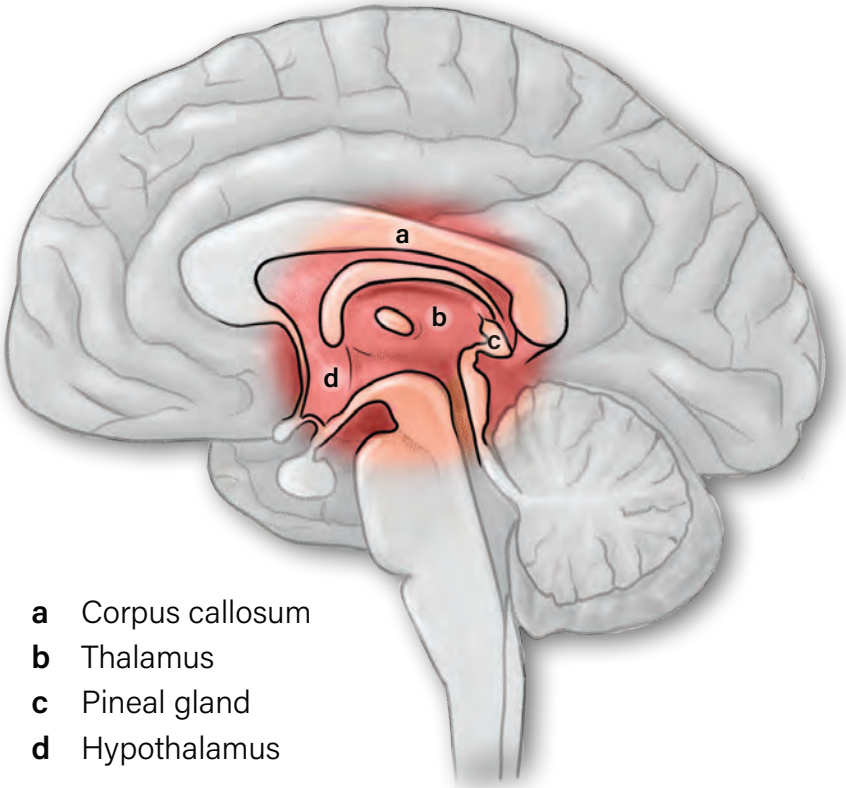
Structures and Functions

Supratentorial Anatomy



Diencephalon

"dai-ehn-seh-fah-laan"



a Corpus callosum
b Thalamus
c Pineal gland
d Hypothalamus

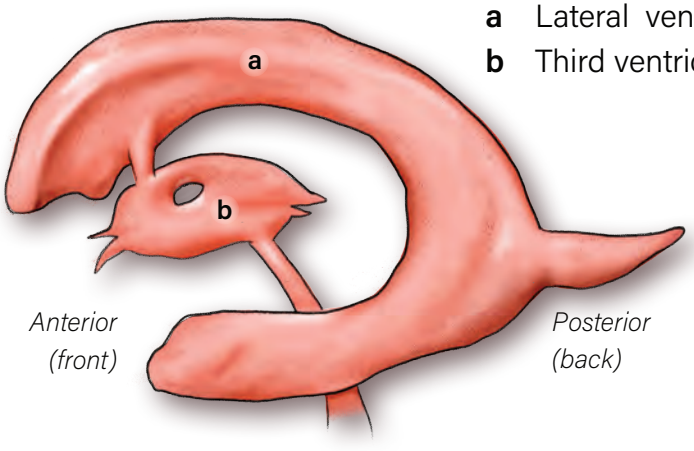
The **diencephalon** (also called the interbrain) is a section of the brain that lies between the cerebrum and the hindbrain (see page 20). It contains structures that help release hormones and regulate sleep cycles!

Cerebral Ventricular System

"suhr-ee-brahl ven-tri-kuh-lahr"

The **ventricles** of the brain are part of a system called the **cerebral ventricular system**, which includes four ventricles, or cavities, that work together to produce cerebrospinal fluid. These ventricles are found in both the supratentorial and posterior fossa areas of the brain, with the **lateral ventricles** (there are two, one in each hemisphere) and the **third ventricle** being supratentorial. The fourth ventricle is found in the posterior fossa (see page 20). These structures are lined by ependymal cells which form the ependyma.

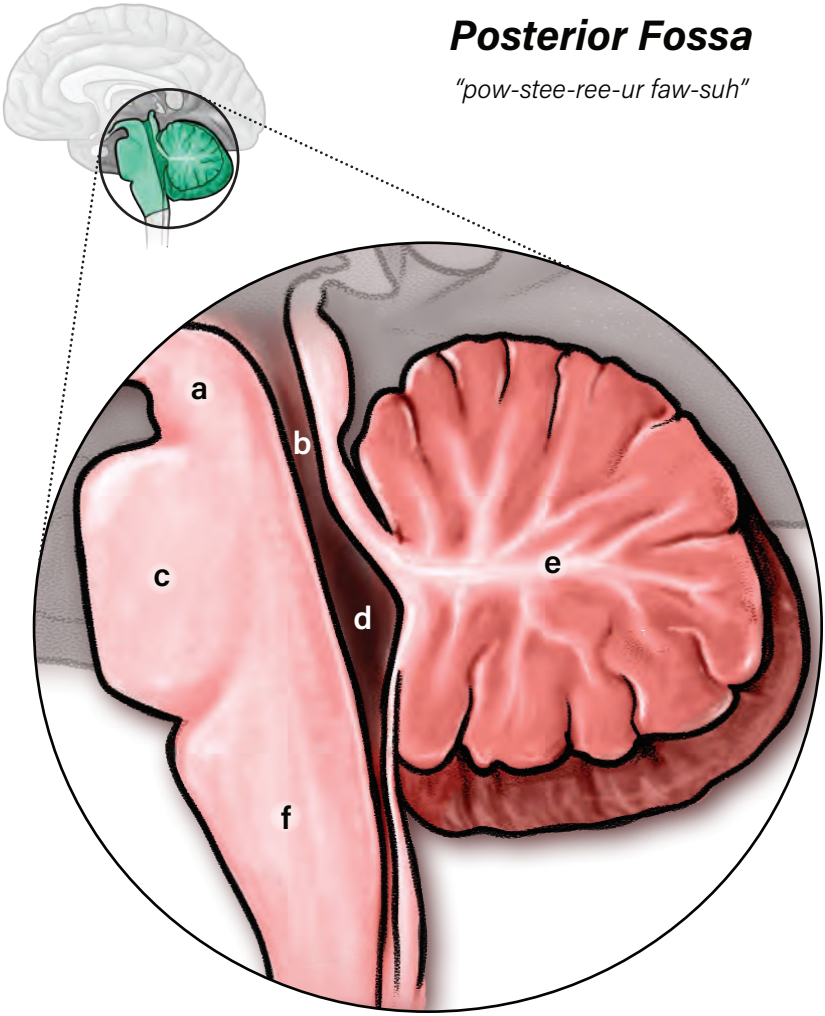
Lateral and Third Ventricles



a Lateral ventricle
b Third ventricle

Structures and Functions

Posterior Fossa Anatomy



a Cerebral pundicle
b Cerebral aquaduct
c Pons
d Fourth ventricle
e Cerebrum
f Medulla oblongata

Hindbrain

The hindbrain is the lower part of the brain that is made of two important structures: the brainstem and the cerebellum.

The **brainstem** is one of the most important parts of the central nervous system and consists of three parts, each of which has specific roles to play when it comes to general bodily functions.

The **cerebellum**, which is often presented as a wrinkly, coral-like texture, helps control voluntary movements and things such as posture and balance!

Cerebral Ventricular System

The **fourth ventricle** of the brain, the last part of the cerebral ventricular system (see page 19), is located between the pons and cerebellum. This ventricle is slightly different from the others, as it extends down into a very thin canal that enters the spinal cord.

The cerebrospinal fluid that fills the space within this cavity also drains into the space surrounding the spinal cord, which is called the **subarachnoid space**.

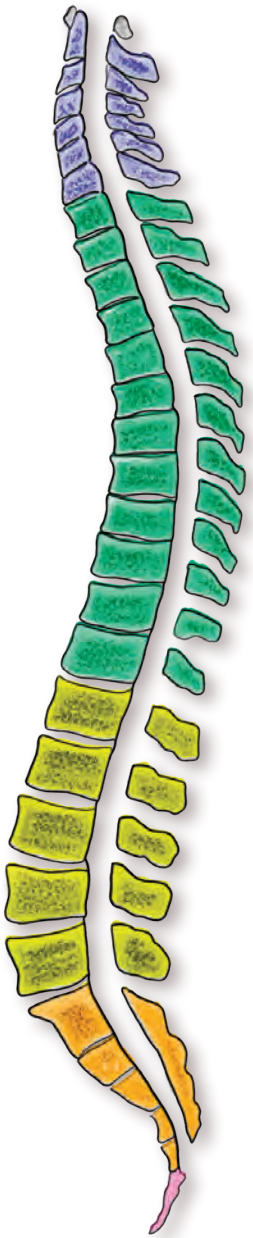
Structures and Functions

Spinal Cord Anatomy

Vertebral Column

"vur-tuh-bruhl kaah-luhm"

The vertebral column is divided into five sections based on the location and structure of the vertebrae, which are the bones that make up the spine. These sections are known as the **cervical**, **thoracic**, **lumbar**, **sacral**, and **coccygeal** regions.



- **Cervical** ("sur-vuh-kl")
- **Thoracic** ("thr-a-suhk")
- **Lumbar** ("luhm-baar")
- **Sacral** ("seih-kruhl")
- **Coccygeal** ("kaak-si-gee-uhl")

Each spinal region is made of a different number of vertebrae, and are represented with a corresponding letter and number. The bones are numbered starting superiorly, or from the top of the spine, and moving down.

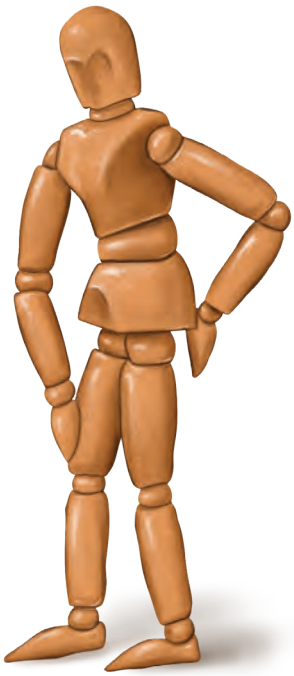
The cervical region, which is the neck, has seven bones which are referred to as **“C1” through “C7”**.

There are twelve thoracic vertebrae, **“T1” through “T12”**, which make up the upper portion of the back.

Lastly, there are only five lumbar vertebrae, which are noted as **“L1” through “L5”**, and make up the lower part of the spine.

The sacrum is made of five vertebrae, which fuse together as we grow to form one structure.

Similarly, the coccyx is made of several fused vertebrae, although this number can vary from three to five, with four being most commonly seen!



Structures and Functions

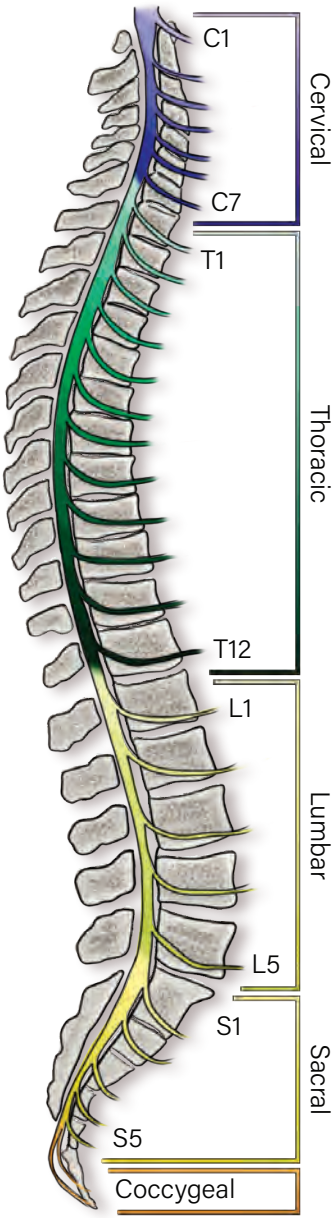
Spinal Cord Anatomy

Spinal Nerves

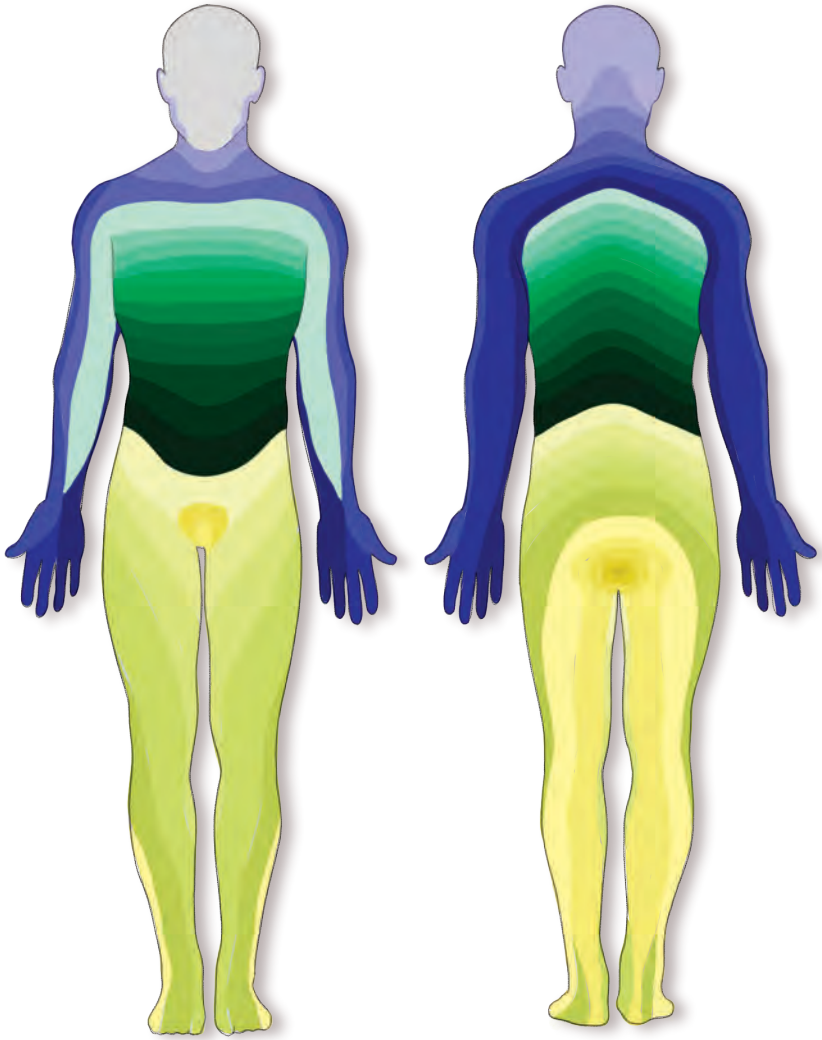
"spai-nuhl nurves"

The spinal cord is contained within the vertebral column and has many **spinal nerves** that branch out between the vertebrae. These branches from the spinal cord are responsible for sensation throughout the body, so knowing the connection between the location of a tumor and where sensations may be impacted is important.

Dermatomes, which can be seen on the next page, help visualize these connections, as each color on the body corresponds to a spinal nerve seen on the vertebral column! While there are only seven cervical vertebrae, there are eight corresponding nerves!



Dermatomes



Reading Scans

General Overview

Types of Scans

There are several types of scans, or imaging, that can be run in order to look for changes within the body. The most common types that an ependymoma patient may experience are CT, MRI, and PET scans, which are described on the following pages.

Computed Tomography (CT)

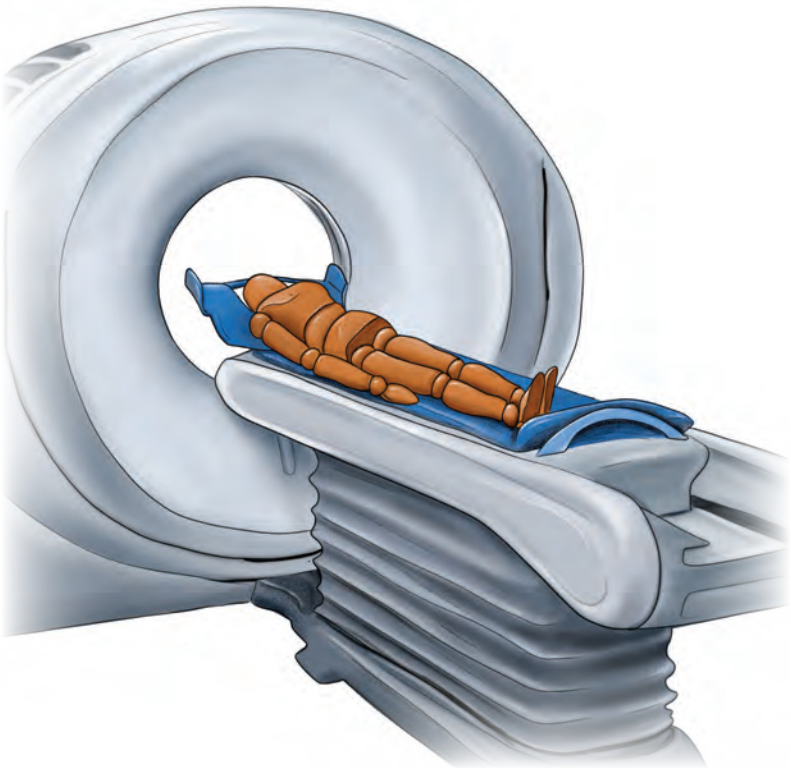
"kuhm-pyoo-tuhd tuh-maa-gruh-fee"

Magnetic Resonance Imaging (MRI)

"mag-neh-tuhk reh-zuh-nuhns i-muh-jung"

Positron Emmission Tomography (PET)

"paa-suh-traan ee-mi-shn tuh-maa-gruh-fee"



These machines can look big and scary, but they are only here to help. For some types of scans, patients may hear some loud noises that can be intimidating; these sounds are normal and necessary for the machines to do their jobs.

It may take time to get used to the sounds and everything involved in getting scans, but your medical team is there to help and provide tips and tricks to get more comfortable!

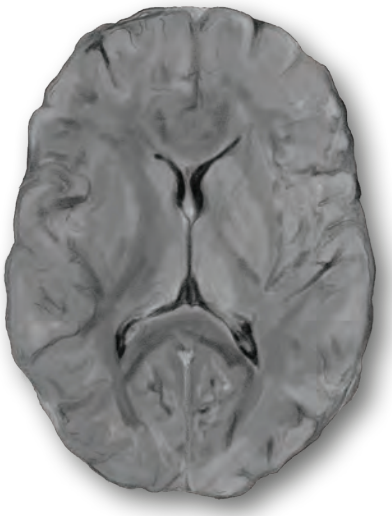
Computed Tomography Scan

CT scans are very fast and are generally performed in emergency rooms to get an early understanding of what is happening within the body. These give more information than X-rays (which are mainly used to look at bones) but are the least detailed of the three examples shown in this guide.

CT scans use a very small dose of radiation to create the imagery doctors use to diagnose tumors or other changes to the body, and this amount is specifically calculated and tailored to each patient.

Important to note:

While this type of imaging does use doses of radiation, these amounts are very small and will not stay in the body after the scans are complete.



Understanding the Colors

- **Gases and liquids** tend to appear black on CT scans, as they are not absorbing as much light from the X-rays when compared to bone or other more solid structures!

- **Bone** and harder parts of the body appear white on these scans.

- **Softer structures** of the body (like parts of the brain) will be represented in different shades of gray. These shades depend on the density of the tissue and how they interact with the X-rays.

CTs can be taken with something called a contrast agent, which may be given as a drink or through an injection depending on what is being looked at. This material blocks the X-rays that are used to take the images and will help emphasize blood vessels or other structures that may be important for a doctor to look at.

After scans with contrast are taken, patients may be asked to drink a lot of water or fluids to help speed up the process of flushing the contrast agent!

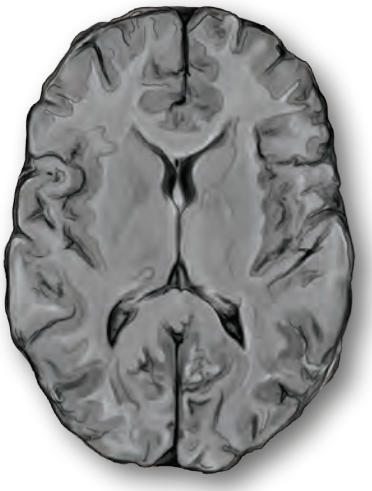
Reading Scans

MRI

Magnetic Resonance Imaging Scan

These scans can capture intricate details through the use of magnets and radio waves. MRI scans are slightly different than X-rays and CTs, as they do not use radiation, and can also require patients to be still for a long time as the machine works.

Because MRIs use a strong magnetic field, the patient must have no metal on or in their body, which includes jewelry, hearing aids, pacemakers, etc.



T1

(used to see anatomy and tissues within the body)

T2

(used to show anatomy with a focus on fluids such as CSF)

Understanding the Colors

T1	T2
Bones and fluids (such as CSF or vertebrae)	**Bones and liquids** (such as CSF or vertebrae)
Fat content such as white matter as well as new areas of inflammation	**Fluids** such as CSF
Dark gray represents **grey matter** while lighter gray represents **white matter** in the brain (**muscles** also appear gray)	Light gray represents **grey matter** while darker gray represents **white matter** in the brain (**muscles** also appear gray)

This is the most common type of imaging for patients needing consistent scans for check-ins because there is no radiation involved. There are also a lot of different types of MRIs, each with different purposes for what a doctor may want to look at (T1 and T2 seen on the left are standard and will likely be seen).

These scans can be run with or without contrast, which for MRIs is an injection that adds clarity to the images by changing the way fluids interact with the magnets of the machines taking the images.

Reading Scans
PET

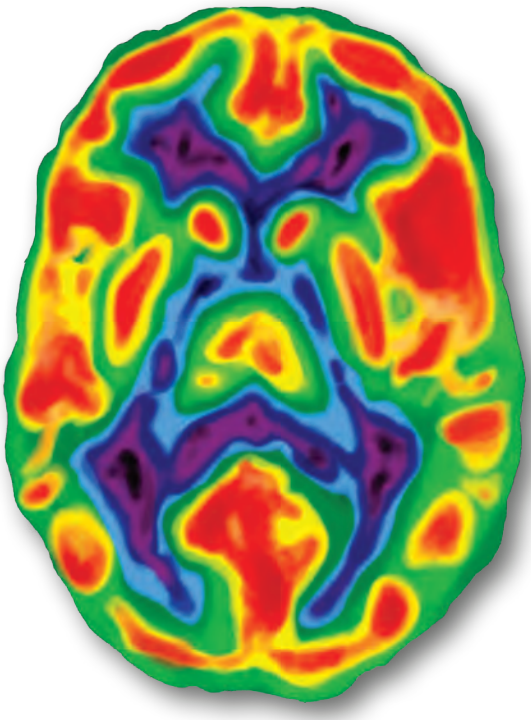
Positron Emission Tomography Scan

PET scans are used to show the rate of chemical reactions (the metabolism) of cells within tissue and organs. In order to make this happen, something called a tracer must be introduced into the blood, which allows these metabolic rates to show up on the imagery (like contrast agents for CTs and MRIs).

These scans can be used alongside CTs and MRIs to help detect things such as recurrence, the spreading of cells, and to see how effective a treatment is!

What you see...

When looking at a PET scan, you may notice that there are several colors shown throughout the image. These colors represent different metabolic rates, which determine how active certain cells may be in specific areas!



Color Chart

Low Activity High Activity

Classifications

Subtypes of Ependymoma

How does it work?

Ependymomas are classified based on several factors, including location and biomarkers (see page 8). As seen throughout this guide, the supratentorial, posterior fossa, and spinal cord regions are important not only because of the differences in anatomy and resulting impacts on the body but also because they play a role in the classifications themselves.

Important to note:

As more research is done to aid in the understanding of ependymoma, more accurate classifications and, as a result, more accurate diagnoses can be made. This means it is important to keep up with new research and stay up-to-date on these tricky categories!

What are grades and stages?

When thinking of cancer and tumors, it is common to associate a grade or stage along with the type ("stage 2 breast cancer" or "grade 1 breast cancer"). Grades refer to the cancer cells themselves and what they look like under a microscope. Stages, on the other hand, relate more to the size of an initial or primary tumor and how it is spreading in the body.

Does that apply to ependymoma?

Instead of categorizing them by the severity or how they spread, ependymomas are assigned a specific name based on what is found genetically and where it is located. This allows a more specific diagnosis to be made, which is why it is important to know the specific type of ependymoma a patient has!

For some tumors, however, there are no significant biomarkers found. For these, a grade can be assigned in addition to their location. Additionally, there are cases where biomarkers are not assessed; in these cases, they may be classified as "not otherwise specified" (NOS).

Classifications

Subtypes of Ependymoma

Supratentorial Subtypes

These are broken down based on molecular markers, specifically looking at fusions of two specific genes: ZFTA and YAP1. If either of these gene fusions is present, the classification is based on the biomarker.

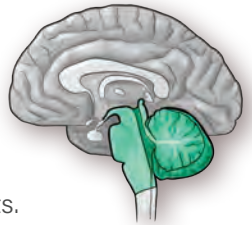
If there are no gene fusions found, the tumor would be classified as a supratentorial tumor and can be assigned a grade of 2 or 3.

Supratentorial Ependymoma (ST-EPN)

ZFTA Fusion-Positive Ependymoma (ST-EPN-ZFTA)

YAP1 Fusion-Positive Ependymoma (ST-EPN-YAP1)

Posterior Fossa Subtypes



Posterior fossa tumors found to have no biomarkers can also be assigned a grade of 2 or 3, much like their supratentorial counterparts.

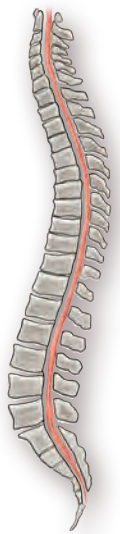
These tumors, however, are grouped into PFA and PFB categories based on methylation rather than specific gene fusions, which is another type of biomarker!

Posterior Fossa Ependymoma (PF-EPN)

Posterior Fossa A Ependymoma (PFA-EPN)

Posterior Fossa B Ependymoma (PFB-EPN)

Spinal Cord Subtypes



Spinal cord ependymomas are classified based on the presence (or lack) of an amplification of a specific gene, meaning there are extra copies of the MYCN gene. When this occurs, these tumors are put into their own classification and are not assigned a grade.

Just like the ependymomas found in the brain, spinal tumors with no additional biomarkers can be given a grade of 2 or 3.

Spinal Cord Ependymoma (SC-EPN)

MYCN Amplified Spinal Cord Ependymoma (SC-MYCN-EPN)

Additional Subtypes

Subependymoma (SE)

These are grade 1 tumors that can be found in either the brain or the spine, and unlike the other subtypes, they are not classified by location.

Subependymomas tend to be very slow-growing, so patients may be treated more for their pain rather than undergoing an aggressive treatment plan.

Myxopapillary Ependymoma (MPE)

Myxopapillary ependymomas are categorized as grade 2 and are found in the spine. Much like subependymoma, this classification is often very slow-growing and they are often considered to be benign.

Glossary

Ad - Bi

Adolescent young adult (AYA)
Refers to those between the stages of childhood and adulthood, and can range anywhere from age 10 to 29 depending on the institution

Anterior
Referring to the front of the body (opposite of posterior), also called "ventral"

Aphasia
The loss of ability to communicate (speaking, writing, understanding language, etc.)

Asymptomatic
Not showing any sign of disease or disorder

Audiologist
Experts who specialize in the treatment of hearing and balance disorders

Benign
A condition that is not cancerous, meaning it does not grow quickly or spread to other parts of the body

Biomarker
Something found in body fluids or tissues that may represent a disease such as cancer (these can be used to further classify cancers upon initial diagnosis)

Biopsy
Removal of cells or tissue for the purposes of further testing by a pathologist

Central nervous system (CNS)
Consists of the brain and spinal cord

Cerebral ventricular system
Includes four ventricles that work together to produce cerebrospinal fluid (see "ventricle")

Cerebrospinal fluid
Produces nutrients for the nervous system and plays many roles in ensuring healthy brain function

Cerebrum
The upper part of the brain which is split into two hemispheres

Certified child life specialist (CCLS)
A professional who provides insight to children and their families when it comes to preparing for and understanding their diagnosis, treatment, coping tools, and much more

Cervical
Relating to the neck

Classification
A way of grouping tumors based on the things they have in common (this can help guide decision-making when it comes to treatment)

Coccygeal
Relating to the coccyx and the surrounding area

Glossary

Co - Ep

Cognition
The process of thinking, learning, remembering, being aware of surroundings, and using judgment

Computed tomography scan (CT)
A type of scan that can be performed very quickly, generally performed in emergency rooms to get an early understanding of what is happening within the body

Dermatome
A visual guide that uses color to show what region of the body correspond to a spinal nerve seen on the vertebral column

Diencephalon
Also called the interbrain, a section of the brain found between the cerebrum and the midbrain which contains structures that release hormones and regulate sleep cycles

Encapsulated
Confined to a specific area and surrounded by a thin layer of tissue

Ependyma
A specialized tissue that is made of ependymal cells and is found lining the spaces of the central nervous system filled with cerebrospinal fluid

Ependymal cell
A type of glial cell that come together to form a thin layer of tissue known as the ependyma

Frontal lobe
Located in the front of the brain, functions include problem-solving, impulse control, and voluntary movement

Glial cell
A specialized cell that holds nerve cells in place ("glial" meaning glue)

Grade
A description of a tumor based on what the cells look like under a microscope and how quickly they grow and spread

Gross motor skills
The ability to control the muscles involved in movement of the arms, legs, and other part of the body for movement such as standing, sitting, crawling, and walking

Hemisphere
Sections of the cerebrum (there are two, left and right) which are further broken down into lobes

Hindbrain
The lower part of the brain which is made up of the brainstem and cerebellum

Histology
The study of tissues and cells under the microscope

Imaging
A process that takes pictures of areas inside the body

Glossary

In - Me

Inferior
Referring to the bottom of the body toward the feet (opposite of superior)

Lateral
Referring to the sides of the body and away from the center (opposite of medial)

Lobe
Sections of the brain (each hemisphere has four) with specific functions

Lumbar
Relating to the lower part of of the vertebral column and surrounding area

Magnetic resonance imaging scan (MRI)
A type of scan that uses strong magnets and radio waves to capture intricate details and images of the body

Medial
Referring to the middle of the body (opposite of lateral)

Medical social worker
A professional who works alongside a medical team to assist patients and their families with the transition into a medical environment

Metastasize
To spread from one part of the body to another

Mutation
Any change in the DNA sequence of a cell

Necrosis
Death of living tissues

Neuro surgeon
A specially trained medical doctor who performs surgery on the brain and spinal cord

Neuro-oncologist
An oncologist who specializes in the nervous system (cancer of the brain and spinal cord)

Neuropathologist
A pathologist with specialization in tissues of the brain and spinal cord

Neuropathy
A nerve problem that causes pain, numbness, tingling, swelling, or muscle weakness in the body

No Evidence of Disease (NED)
No signs of cancer being found after treatment

Occipital lobe
Located in the back of the head and is tasked with helping understand what is seen (see "lobe")

Oncologist
A medical professional who specializes in the care and treatment of people diagnosed with cancer

Glossary

Op - Po

Ophthalmologist
A medical doctor who specializes in eye and vision treatments

Otolaryngologist
Better known as an ear, nose, and throat doctor, or an ENT; A medical professional who specializes in surgery of the head and neck

Palliative care
A medical specialty that focuses on the comfort and quality of life of patients with severe diseases

Parietal lobe
Located in the back upper part of the brain and takes information from nerves and translates it into the things we feel and see (see "lobe")

Pathologist
A medical professional who studies tissue and performs lab tests (they are often involved in diagnostic processes through biopsies)

Pediatric palliative care
A medical specialty that focuses on the comfort and quality of life of young patients with severe diseases.

Positron emission tomography scan (PET)
A type of scan used to show the rate of chemical reactions (the metabolism) of cells within tissue and organs

Posterior
Referring to the back of the body (opposite of anterior), also called "dorsal"

Posterior fossa
Referring to the lower part of the brain and its structures

Primary brain tumor
Refers to a brain tumor that began in the brain, rather than a tumor somewhere else in the body that has spread to the brain

Radiation oncologist
A doctor who specializes in the treatment of cancer with radiation therapy

Relapse
The return of a disease after a time period of improvement or lack of changes

Remission
A decrease or disappearance of signs of cancer

Resection
Surgery to remove tissue, such as a tumor

Sacral
Relating to the sacrum and the surrounding area

Secondary brain tumor
Refers to a brain tumor that began somewhere in the body and has spread to the brain

Glossary

St - Ve

Stable disease
Cancer that is not shown to shrink, but does not show signs of growing or spreading

Superior
Referring to the top of the body (toward the head)

Supratentorial
Referring to the upper part of the brain and its structures

Temporal lobe
Located on the sides of the brain, plays a role in understanding language, long-term memory, and reading (see “lobe”)

Thoracic
Relating to the chest and the surrounding area

Tumor
An abnormal growth of tissue within the body

Ventricle
Connected cavities (empty structures) of the brain that protect the brain and are filled with cerebrospinal fluid

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