

Collecting Cancer Data: Central Nervous System

NAACCR Webinar Series 2016-2017

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●●● Q&A

- Please submit all questions concerning webinar content through the Q&A panel.
- Reminder:
 - If you have participants watching this webinar at your site, please collect their names and emails.
 - We will be distributing a Q&A document in about one week. This document will fully answer questions asked during the webinar and will contain any corrections that we may discover after the webinar.



●●● Fabulous Prizes ...



ICE CREAM, SHAKES & POPSICLES
SIZZLING BBQ
 FUN IN THE SUN
poolside
 DAD, DADDY, DADA
SUMMER
FLIP FLOPS
 Sunglasses



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●●● Agenda

- Overview
- Epi Moment
- MP/H
 - Benign
 - Malignant
- Stage

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••• Case eligibility

- Includes **malignant & non-malignant** tumors diagnosed on or after **1/1/2004** of the following sites:
 - Meninges (C70._)
 - Brain (C71._)
 - Spinal cord, cranial nerves, & other CNS (C72._)
 - Pituitary gland (C75.1)
 - Craniopharyngeal duct (C75.2)
 - Pineal gland (C75.3)



••• Juvenile Astrocytoma

- Record Juvenile Astrocytoma as 9421/**3** in the registry.
 - ICD O 3 Manual lists Juvenile Astrocytoma as 9421/**1**
 - 9421/3 should also be used for pilocytic astrocytoma



●●● Sequence 00 vs 60

- Records sequence of malignant and nonmalignant neoplasms over patient's lifetime.
 - 00-59 and 99 for malignant and in situ behavior
 - 00 = solitary malignant neoplasm
 - 01 = first of multiple malignant neoplasms
 - 60-88 for non-malignant behavior
 - 60 = solitary non-malignant neoplasm
 - 61 = first of multiple non-malignant neoplasms



●●● Laterality


CNS sites defined as paired for cases diagnosed 1/1/2004 and after

- | | |
|---------------------------|----------------------------|
| • Cerebral meninges C70.0 | • Olfactory nerve C72.2 |
| • Cerebrum C71.0 | • Optic nerve C72.3 |
| • Frontal lobe C71.1 | • Acoustic nerve C72.4 |
| • Temporal lobe C71.2 | • Cranial nerve, NOS C72.5 |
| • Parietal lobe C71.3 | |
| • Occipital lobe C71.4 | |

Assign laterality as '0' for all other CNS sites



Epi Moment



Check My Brain
Alice In Chains
Black Gives Way To Blue

Theme song:

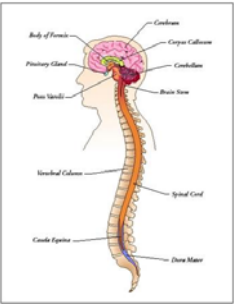
Brain & CNS


Theme song:

Check my brain (Alice in Chains)

Epidemiology: Brain & CNS Tumors

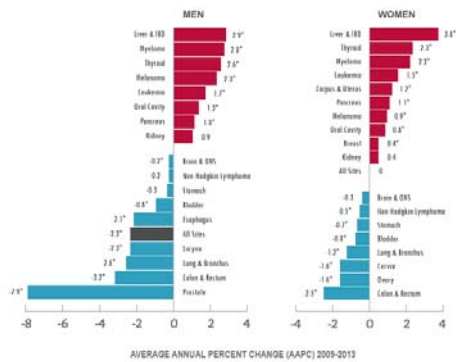
- Non-malignant rates higher (11.0 per 100,000 versus 6.6)
 - Rates higher in women (13.8 per 100,000 versus 7.9)
- Malignant rates higher in developed countries
 - Rates higher in men (7.8 per 100,000 versus 5.6)
- Common site among children
 - #1 0-14
- Survival varies significantly by age, behavior, & histology
 - Pediatric survival a success story
 - 0-19 73% 5-year survival; 20-44 59%; 45-54 31%; 55-64 18%, 65-74 11%; 75+ 6% (malignant)
 - Non-malignant survival higher in US than Europe
 - 96% US 69-77 % Europe (adults)
 - Glioblastoma lowest survival rates
 - 4-17% 5-year survival dependent upon age





Incidence & Mortality Trends (Malignant)

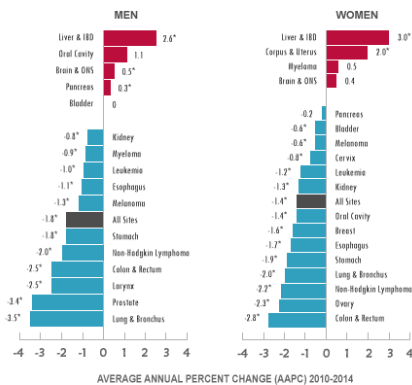
NATIONAL INCIDENCE TRENDS



*AAPC is significantly different from zero (p<.05).
Rates were adjusted for reporting delay in the registry.

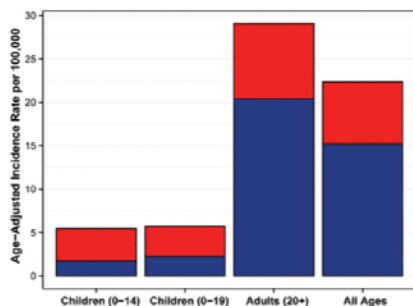
SEER (CDCR) GOV
Source: Annual Report to the Nation on the Status of Cancer 1975-2014

NATIONAL MORTALITY TRENDS

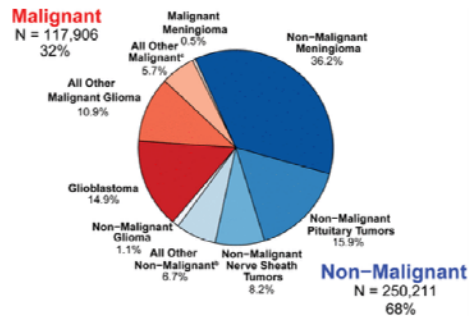


*AAPC is significantly different from zero (p<.05).

seer.cancer.gov
Source: Annual Report to the Nation on the Status of Cancer 1975-2014



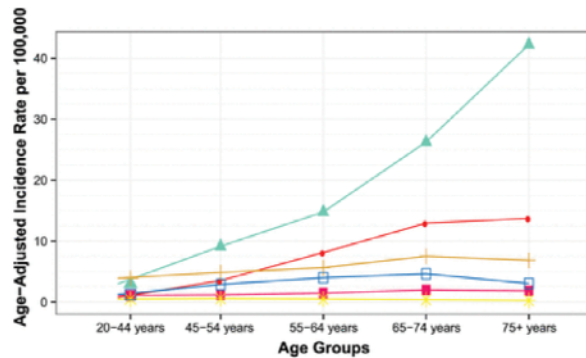
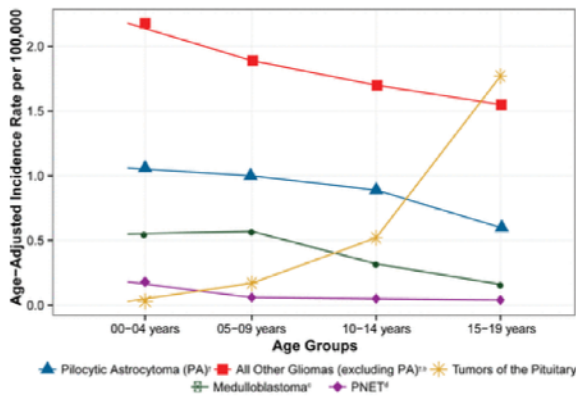
a. Rates per 100,000 and age-adjusted to the 2000 United States standard population.



* Percentages may not add up to 100% due to rounding. * Includes histologies with ICD-O-3 behavior code of 0 or 1 from Neuronal and Mixed Neuronal/Glioma Tumors, Tumors of the Head Region, Embryonal Tumors, Other Tumors of Cranial and Spinal Nerves, Mesenchymal Tumors, Primary Mesenchymal Lesions, Other Neoplasms Related to the Meninges, Other Hemopoietic Neoplasms, Germ Cell Tumors, Cysts and Histiocytosis, Chondrosarcoma, Hemangioma, Neoplasm Unspecified and All Other. † Includes histologies with ICD-O-3 behavior code of 3 from Choroid Plexus Tumors, Neuronal and Mixed Neuronal/Glioma Tumors, Tumors of the Head Region, Embryonal Tumors, Nerve Sheath Tumors, Mesenchymal Lesions, Primary Mesenchymal Lesions, Other Neoplasms Related to the Meninges, Lymphoma, Other Hemopoietic Neoplasms, Germ Cell Tumors, Cysts and Histiocytosis, Tumors of the Pituitary, Chondrosarcoma, Hemangioma, Neoplasm Unspecified, and All Other.



Incidence Rates by Age

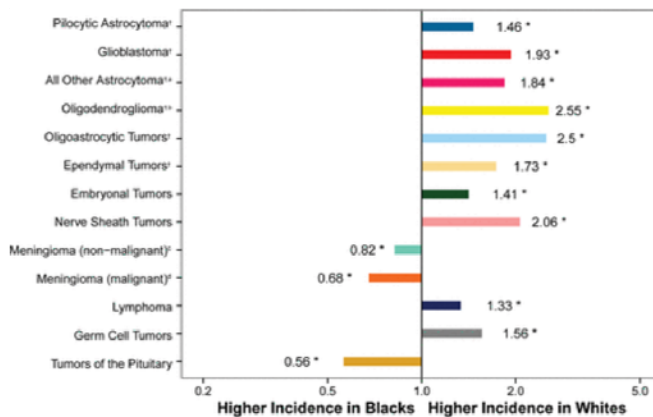


† All or some of this histology are included in the CBRUS definition of gliomas, including ICD-O-3 histology codes 9380-9384, 9391-9460 (Table 2a).
 a. Rates per 100,000 and age-adjusted to the 2000 United States standard population. b. ICD-O-3 Histology Codes: 9380-9384, 9391-9420, 9422-9460, 9480. c. ICD-O-3 histology codes: 9470/3, 9471/3, 9472/3, 9474/3. d. ICD-O-3 Histology Code: 9473/3.

† All or some of this histology are included in the CBRUS definition of gliomas, including ICD-O-3 histology codes 9380-9384, 9391-9460 (Table 2a).
 a. Rates per 100,000 and age-adjusted to the 2000 United States standard population. b. ICD-O-3 Histology Codes: 9381, 9384, 9424, 9400, 9401, 9410, 9411, 9420. c. ICD-O-3 Histology Codes: 9450, 9451, 9460. d. ICD-O-3 Code: 9560. e. ICD-O-3 Histology Codes: 9530/0, 9530/1, 9531/0, 9532/0, 9533/0, 9534/0, 9537/0, 9538/1, 9539/1.



Incidence Rate Ratios (Whites:Blacks)



* Incidence rate is significantly different in whites and blacks.
 † All or some of this histology are included in the CBRUS definition of gliomas, including ICD-O-3 histology codes 9380-9384, 9391-9460, (Table 2a).
 a. ICD-O-3 Histology Codes: 9381, 9384, 9424, 9400, 9401, 9410, 9411, 9420. b. ICD-O-3 Histology Codes: 9450, 9451, 9460.
 c. ICD-O-3 Histology Codes: 9530/0, 9530/1, 9531/0, 9532/0, 9533/0, 9534/0, 9537/0, 9538/1, 9539/1. d. ICD-O-3 Histology Codes: 9530/3, 9538/3, 9539/3.



Brain & CNS Survival

- Largely dependent upon age
 - decreases with older age at diagnosis
 - children and young adults generally have better survival outcomes for most histologies.
- Malignant
 - 5-year survival 34.9%
 - Large variations in survival estimates depending upon histology
 - 94.2% for pilocytic astrocytoma but 5.5% for glioblastoma.
- Non-malignant
 - 5-year survival 90.4%
 - Less variation in survival estimates
 - Lowest in craniopharyngioma and meningioma; 5-year relative survival of 83.9% and 86.4%, respectively.
 - Highest in nerve sheath tumors and tumors of the pituitary, 5-year relative survival of 99.3% and 96.4%, respectively.
 - Highest in adolescents and young adults is highest (97.7%) versus children (96.4%) and older adults (88.8%).



Risk Factors

- Established risks
 - Radiation exposure (Radiation therapy)
 - Genetic disorders: Neurofibromatosis type 1 & 2, tuberous sclerosis, Von Hippel-Lindau disease, Li-Fraumeni
- Suspected risks
 - Cell phone use (radiofrequency rays not ionizing radiation)
 - Occupation exposures (vinyl chloride, petroleum products)
- Popular myths
 - Sugar substitutes (aspartame)
 - EMF
 - Some viruses



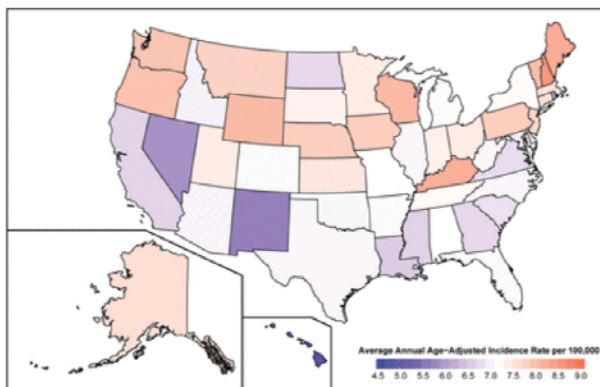
CiNA Research

- CBTRUS
 - Descriptive epidemiology
 - Documented under reporting
- Annual Report to the Nation 2010
- Pediatric
 - Appalachian versus non-Appalachian
 - Potential genetic component
 - Pilot project to develop hypotheses about why risk in Appalachian children is higher

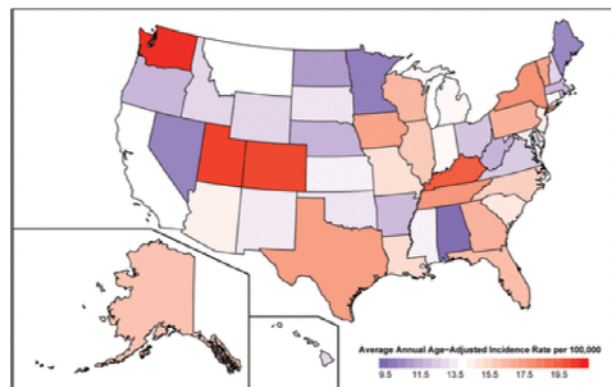


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Variability of Brain & CNS Tumors by State



a. Rates per 100,000 and age-adjusted to the 2000 United States standard population. b. Data only available from 2009-2010 for Nevada.



a. Rates per 100,000 and age-adjusted to the 2000 United States standard population. b. Data only available from 2009-2010 for Nevada.

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Underreporting

- Non-malignant tumors historically have high degree of inter-registry variability in rates
- Does the variability have public health importance or is it spurious?
- Non-malignant variability largely driven by case completeness
- Associated with underreporting
 - Non-microscopically confirmed, non-surgery
 - Younger age, Specific subsites



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Survey conducted in 2015

- Objectives
 - Assess benign/borderline brain tumors variability by registry
 - Survey high and low incidence registries
 - Mutable differences in case ascertainment
 - training, operations
 - Assess correlations with rates
 - Registry capacity, reporting facilities capacity, demographics, geography
- Conclusions
 - Active case finding
 - Linkage, use electronic sources
 - Site Specific, code specific, patient discharge
 - Non-Hospital sources
 - Radiology
 - Active radiology case finding/hospital discharge
 - Site specific
 - AIM software

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2018 CNS

Carol Hahn Johnson BS, CTR Retired



Changes


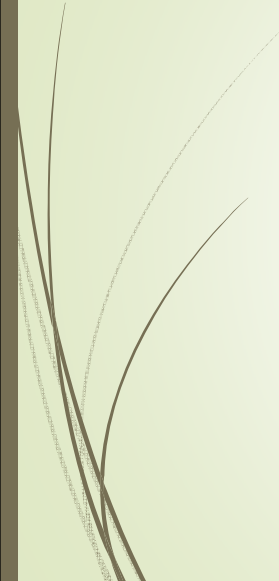
- ▶ Non-malignant, malignant CNS Tumors
- ▶ DX W/O resection as non-malignant, resection proves malignant, one primary, no time limits
- ▶ Non-malignant-chart CN, reportable/not reportable
- ▶ New terms/codes
- ▶ One table – NOS W/WO subtypes
- ▶ Improved tree



MPH 2007 Benign and Borderline Intracranial and CNS



Carol Hahn Johnson BS, CTR (Retired)




General “Rules” and Information

- M1 Single tumor ALWAYS single primary
- No timing rules for CNS neoplasms
- Laterality not used to determine multiple primaries
- Multiple cerebral meningiomas – single primary



Reportable Neoplasms MUST Be

1. Reportable behavior
 - a. Borderline /0 OR
 - b. Benign /1 OR
 - c. WHO Grade 1 AND
2. Reportable primary site AND
3. Reportable histology



Reportability Criteria: Primary Site Cranium



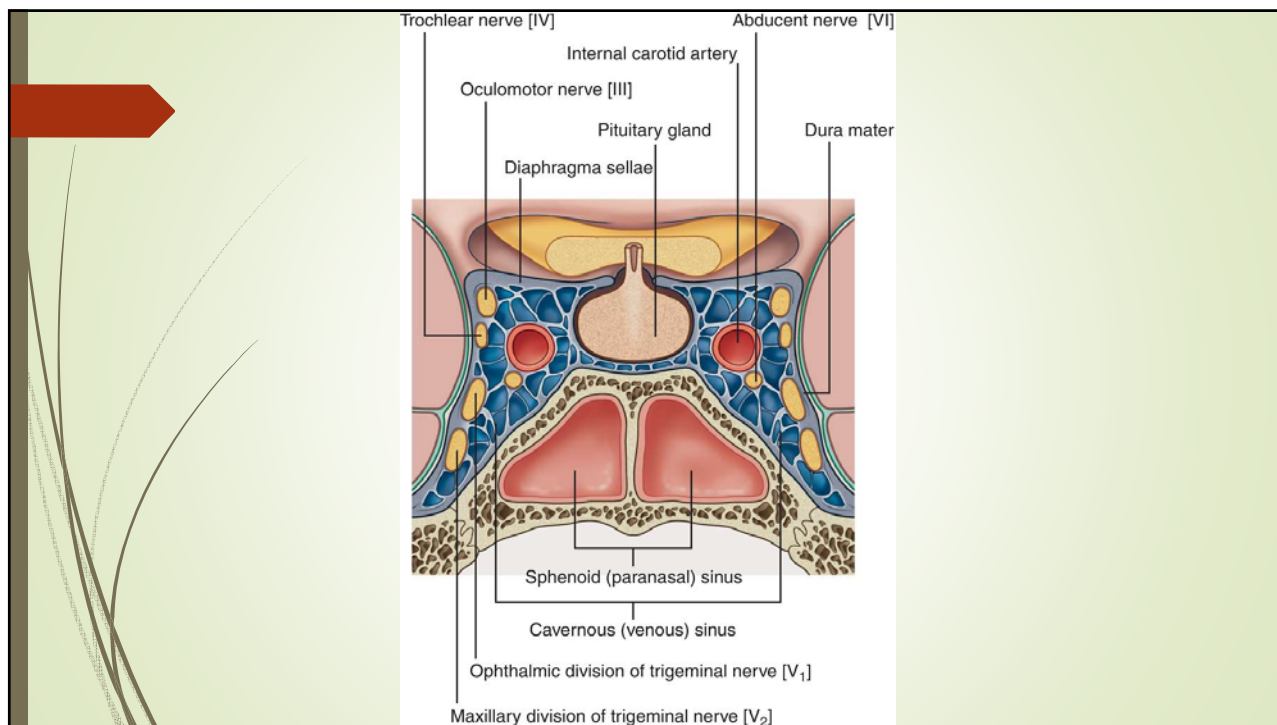
Question

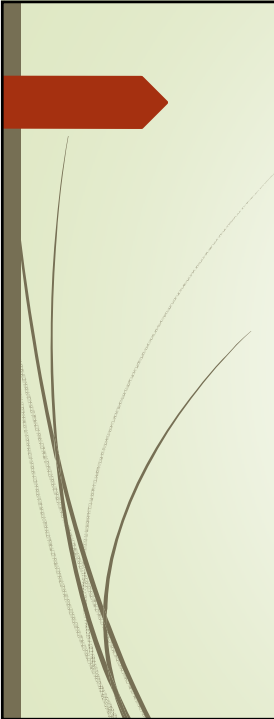
- How many primaries?
- Patient has Neurofibromatosis type II and presents with
 - Schwannoma on left facial nerve
 - Schwannoma on right acoustic nerve
 - Multiple meningiomas falx cerebelli



Reportable Sites

- Intracranial/intradural: Within the cranium
 - Dura/meninges tightly adherent to skull bones
- Intracranial includes
 - Cerebral meninges (next slide)
 - Intradural
 - Brain
 - Glands/ducts: Pituitary, craniopharyngeal, pineal
 - Cranial nerves





Intradural Sites (Between Layers of Meninges)

- Sagittal sinus
- Cavernous sinus
 - No ICD-O site/topography code
 - Tumors originate in
 - Cranial nerves passing through sinus
 - Dura/meninges of cranial nerves
 - When histology not compatible with nerve or meningeal tumor, may be extension from another site



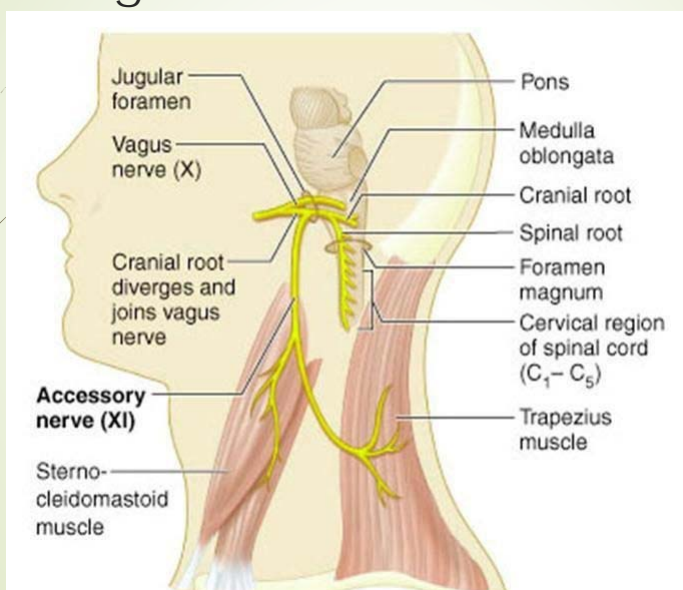
Reportable Cranial Meninges Tumors

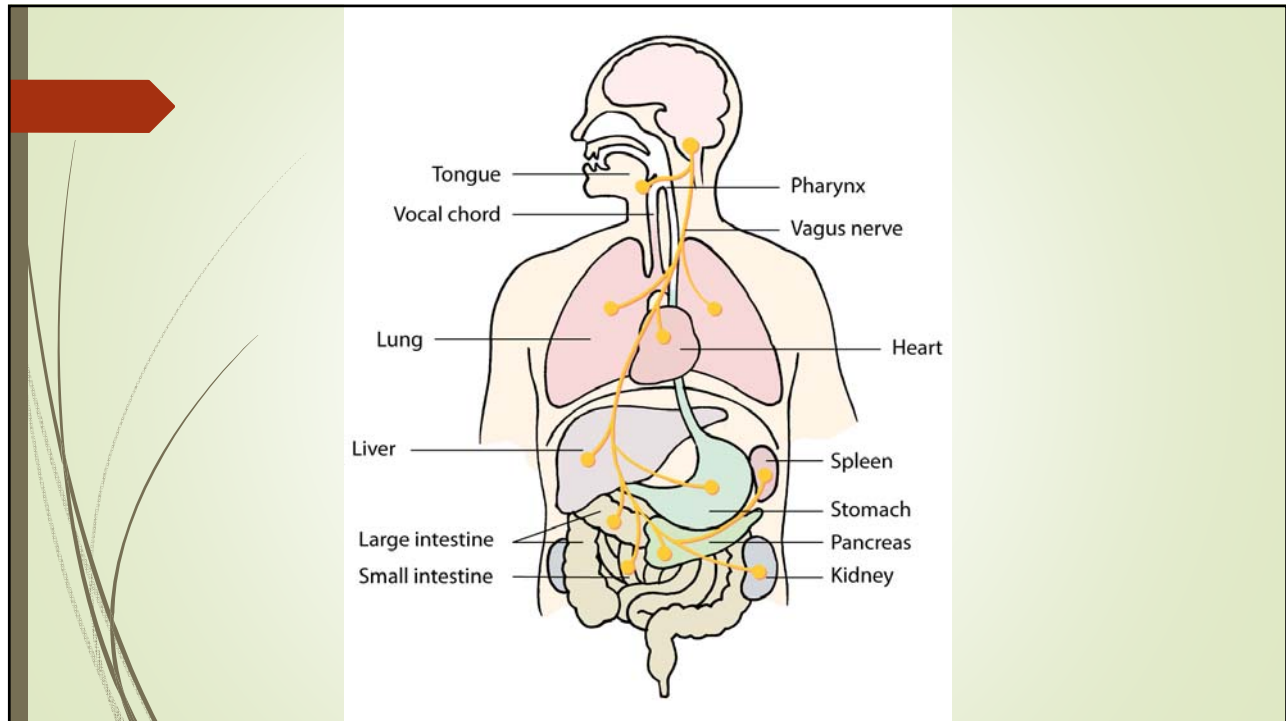
- Sphenoid wing meningioma
 - Originates in cranial meninges overlaying sphenoid wing
- Intraosseous meningioma
 - Originates inner layer of meninges
 - Grows "outward" toward bone forming periosteum

Reportable Intracranial Sites Cont'd

- Primary sites: cranial nerves (acoustic neuroma); meninges (meningioma)
- Only reportable when intracranial: READ OP REPORT
 - Cranial nerves exit cranium (extracranial)
 - Become peripheral nerves
 - Borderline/benign extracranial or peripheral nerve tumors NOT reportable

Vagus Nerve CNX





Question

- How many primaries?
- Patient has Neurofibromatosis type II and presents with
- Schwannoma on left facial nerve
- Schwannoma on right acoustic nerve
- Multiple meningiomas falx cerebelli



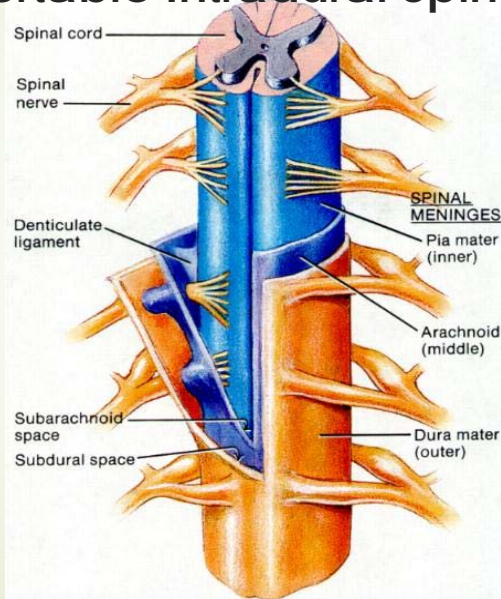
Answer and Rationale

- Two primaries, schwannoma of acoustic nerve and meningioma of cerebral meninges
- Rationale:
- The facial nerve is extracranial – NOT reportable
- Multiple meningiomas are a single primary



Reportability Criteria: Primary Site Spine

Reportable Intradural Spinal Tumors



Reportable Intradural Sites Cont'd

- Intradural: between layers of meninges
 - Nerve roots
 - Reportable neoplasms:
 - Tumors of meninges/dura of nerve roots (meningioma)
 - Tumors of nerve (schwannoma and neurofibroma)
 - Not reportable: Becomes peripheral nerve when leaves intraspinal space
 - Not reportable for benign/borderline: READ OP REPORT



Reportable Intraspinal Sites

- Intraspinal: occurring within spinal column
- Spinal cord
 - Neurofibromas, schwannomas, ependymomas, hemangioblastoma (examples)
- Spinal vertebra
 - Osteoid osteoma, osteoblastoma, giant cell tumor



Reportable Histology



Pop Quiz


- Epidermoid tumor of the cerebellopontine angle (CPA) and trigeminal vesicle nerve. Patient presented to hospital ED and had brain MRI that revealed 3.2 cm space occupying lesion in region of the left CPA and trigeminal vesicle nerve compatible with epidermoid tumor.

- Reportable Y/N
- Histology code (if reportable) _ _ _ _



Histology Criteria

- Must have ICD-O code
- Only report neoplasms
- Do not report genetic disorders which cause neoplasms
- FYI 2018 rules and ICD-O will not have code for neurofibromatosis
- Three types of neurofibromatosis
 - Neurofibromatosis 1 (NF1)
 - Neurofibromatosis 2 (NF2)
 - Schwannomatosis subtype/variant of NF1 and NF2



Genetic Disorders Cont'd

- NF1
 - Neurofibromas in skin, in GI tract, and along nerves (peripheral, optic)
- NF2
 - Benign skin tumors, bilateral acoustic neuromas, bilateral vestibular schwannoma, multiple meningiomas
- Schwannomatosis (recently recognized)
 - Multiple cutaneous schwannomas and CNS tumors



Pop Quiz

- Epidermoid tumor of the cerebellopontine angle (CPA) and trigeminal vesicle nerve. Patient presented to hospital ED and had brain MRI that revealed 3.2 cm space occupying lesion in region of the left CPA and trigeminal vesicle nerve compatible with epidermoid tumor.
- Reportable Y/N
- Histology code (if reportable) _ _ _ _



Answers and Rationale

- Reportable? No
- Rationale:
 - No ICD-O-3 code for epidermoid tumor or cyst
 - Remember, must meet all 3 criteria to be reportable
 - Primary site, histology, and grade all reportable
 - Histology must have ICD-O-3 code
 - Most commonly called epidermoid cyst
 - Cysts not in ICD-O



Multiple Primary Rules

Behavior Change /0 to /1 Same Tumor/Same Primary

- M6 Chordoid plexus papilloma 9390/0 subsequent atypical chordoid plexus papilloma 9390/1
- M7 Neurofibroma 9540/0 subsequent neurofibromatosis, NOS 9540/1
 - Neurofibromatosis code will become obsolete
- Do not change original abstract
- COC registrars record recurrence
- Counting new primary inflates incidence



MALIGNANT BRAIN SPINAL CORD

CAROL HAHN JOHNSON, CTR RETIRED

CONTENTS

- **Common problem**
- **Equivalent Terms and Definitions: Histology tree**
- **MP Rules**
- **Histology Rules**

COMMON PROBLEM

DISCREPANT INFORMATION ON PATHOLOGY REPORT(S)

- **Classification CNS tumors subjective**
 - **Grade**
 - **Histology**
- **No objective criteria for pathologists**

PATHOLOGY MAY BE DISCREPANT WHEN

- **Single pathology report**
 - Slides sent for outside review
 - Multiple pathologists within institution disagree
- **Multiple pathology report**
 - One from biopsy; one from resection
 - First DX is clinical or radiography (no path) AND
 - First course RX watchful waiting AND
 - Subsequent resection shows different histology and/or grade

RESOLUTION

1. When possible, get advice from pathologist or attending
2. When option one is not available, code from most dependable source
 - a. Resection pathology
 - b. Biopsy pathology
 - c. Physician's documentation of grade and histology
 - d. MRI
 - e. CT
 - f. PET
 - g. Angiogram

EQUIVALENT TERMS AND DEFINITIONS HISTOLOGY TREE

Brain and CNS Terms and Definitions

Malignant Meninges, Brain, Spinal Cord, Cranial Nerves, Pituitary gland, Craniopharyngeal duct and Pineal gland
Equivalent Terms, Definitions, Charts and Illustrations
C700, C701, C709, C710-C719, C720-725, C728, C729, C751-C753
(Excludes lymphoma and leukemia - M9590-9989 and Kaposi sarcoma M9140)

Chart 1 - Neuroepithelial Malignant Brain and Central Nervous System Tumors

Note: This chart is based on the ICD-O Classification of Tumors of the brain and central nervous system. The chart is not a complete listing of histologies that may occur in the brain or central nervous system.

Chart Instructions: Use this chart to code histology. The tree is arranged in descending order. Each branch is a histology group, starting at the top with the least specific terms and descending into more specific terms.

Neuroepithelial (D86)

- Endometrial tumors
 - Endometrial carcinoma (C69)
- Epithelial tumors
 - Adenocarcinoma (C80)
 - Neuroendocrine carcinoma (C74)
 - Neuroendocrine carcinoma, neurosecretory (C74)
 - Neuroendocrine carcinoma, non-neurosecretory (C74)
 - Neuroendocrine carcinoma, unspecified (C74)
 - Neuroendocrine carcinoma, malignant (C74)
- Pineal tumors
 - Pinealoma (C71)
 - Pinealoblastoma (C71)
 - Pinealoma, malignant (C71)
- Choroid plexus tumors
 - Choroid plexus papilloma (C72)
 - Choroid plexus carcinoma (C72)
- Neuronal and mixed neuronal/glia tumors
 - Neuroblastoma (C73)
 - Neuroblastoma, malignant (C73)
 - Neuroblastoma, unspecified (C73)
 - Neuroblastoma, neurosecretory (C73)
 - Neuroblastoma, non-neurosecretory (C73)
 - Neuroblastoma, malignant (C73)
- Neuroblastic tumors
 - Neuroblastoma (C73)
 - Neuroblastoma, malignant (C73)
 - Neuroblastoma, unspecified (C73)
 - Neuroblastoma, neurosecretory (C73)
 - Neuroblastoma, non-neurosecretory (C73)
 - Neuroblastoma, malignant (C73)
- Glia
 - Oligodendroglioma (C81)
 - Oligodendroglioma, malignant (C81)
 - Oligodendroglioma, unspecified (C81)
 - Oligodendroglioma, neurosecretory (C81)
 - Oligodendroglioma, non-neurosecretory (C81)
 - Oligodendroglioma, malignant (C81)
- Oligodendroglial tumors
 - Oligodendroglioma (C81)
 - Oligodendroglioma, malignant (C81)
 - Oligodendroglioma, unspecified (C81)
 - Oligodendroglioma, neurosecretory (C81)
 - Oligodendroglioma, non-neurosecretory (C81)
 - Oligodendroglioma, malignant (C81)

Key: The oval represents group terms.

Revised November 1, 2007

SHAPES HAVE MEANINGS

- **Ovals**
 - "Group" names
 - No ICD-O code
 - Used on scans and clinical diagnosis
 - Seldom on FNA
- **Rectangles**
 - NOS
 - Subtypes/variants of NOS

FIRST PART OF TREE - ERROR

Neuroepithelial (9503)

Neuroepithelial

- **Neuroepithelial cells are the "stem cells" of the nervous system**

DIFFERENT GROUPS DIFFERENT BRANCHES (MP RULES)

Embryonal
tumors

Ependymal
tumors

Pineal
tumors

Choroid
plexus
tumors

BRANCHES AND WHEN TO USE NOS

Embryonal tumors

Atypical teratoid/rhabdoid
tumor 9508

Medulloblastoma 9470

Desmoplastic medulloblastoma 9471
Large cell medulloblastoma 9474
Medulloblastoma 9472

MULTIPLE PRIMARY RULES

POP QUIZ

- **MRI: Multicentric disease**
 - RT frontal lobe 4.5 M
 - RT parietal lobe 3.6 CM
 - RT frontal lobe two tumors; 2.4 CM and 3.1 CM
- **Biopsy: Glioblastoma**
- **How many primaries?**

POP QUIZ

- 5/1/2005 MRI **SX** glioma brain stem – no resection
- 4/14/2010 Partial resection same tumor
 - Pathology: astrocytoma
- Single or multiple primaries?
- If single, is the original histology of glioma correct?

M6

- A glioblastoma or glioblastoma multiforme (9440) following a glial tumor is a single primary* (See Chart I)

M7

- Tumors with ICD-O-3 histology codes on the same branch in Chart 1 or Chart 2 are a single primary.*

Note: Recurrence, progression, or any reappearance of histologies on the same branch in Chart 1 or Chart 2 is always the same disease process.

Physicians will stage both tumors

M8

- Tumors with ICD-O-3 histology codes on **different** branches in Chart 1 or Chart 2 are multiple primaries

M9

- Tumors with ICD-O-3 **histology** codes that are **different** at the first (xxxx), second (xxxx) or third (xxxx) number are multiple primaries.**
- **Remember rules are hierarchical**
- **Cannot rely on rule**
- **ONLY** use when rules **M1-M8** do not apply

POP QUIZ

- **Biopsy: Glioblastoma**
- **MRI: Multicentric disease**
 - RT frontal lobe 4.5 M
 - RT parietal lobe 3.6 CM
 - RT frontal lobe two tumors; 2.4 CM and 3.1 CM
- **How many primaries?**

ANSWER AND RATIONALE

- **Single primary**
- **RATIONALE:**
- **Rule M7 Tumors with ICD-O-3 histology codes on the same branch in Chart 1 or Chart 2 are a single primary OR**
- **M10 Tumors that do not meet any of the above criteria are a single primary**
- **ONLY “SITE” RULE IS M5 topography codes differ at second Cx~~X~~ or third Cx~~X~~ character (sites other than brain)**
- **Glioblastomas spread along the dendrites and nerves which results in multifocal/multicentric tumors**

POP QUIZ

- **5/1/2005 MRI SX glioma brain stem – no resection**
- **4/14/2010 Partial resection same tumor**
 - **Pathology: astrocytoma**
- **Single or multiple primaries?**
- **If single, is the original histology of glioma correct?**

ANSWER AND RATIONALE

- **Single primary – M2**
 - **A single tumor is a single primary**
- **Pathology takes precedence over radiology diagnosis**
- **Changes to abstract**
 - **Change histology from glioma to astrocytoma**
 - **Change diagnostic confirmation code (SEER and FORDS)**
- **Note: astrocytoma is a subtype/variant of glioma**
- **REPORT CHANGES TO CENTRAL REGISTRY**

HISTOLOGY RULES

POP QUIZ

- **Pathology: WHO Grade IV astrocytoma with features consistent with secondary glioblastoma**
- **What histology code should be used?**
 - **Astrocytoma**
 - **Glioblastoma**
 - **Mixed glioma**

H5 AND H10

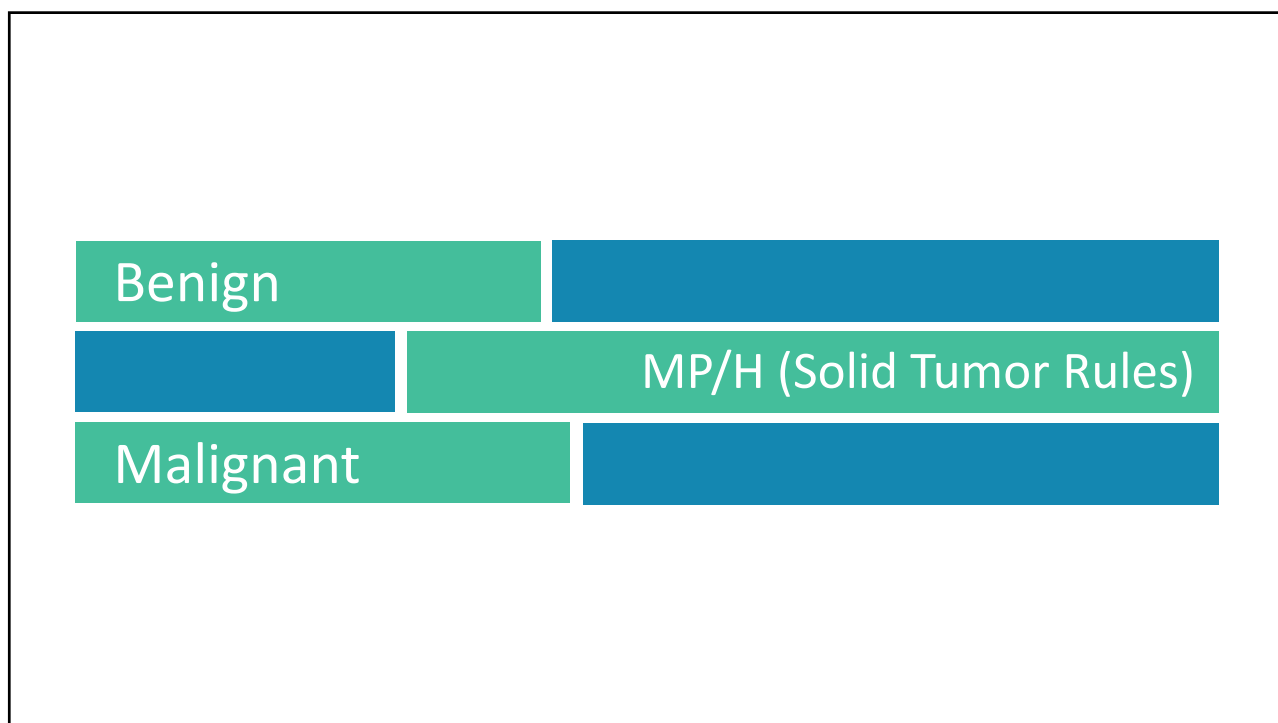
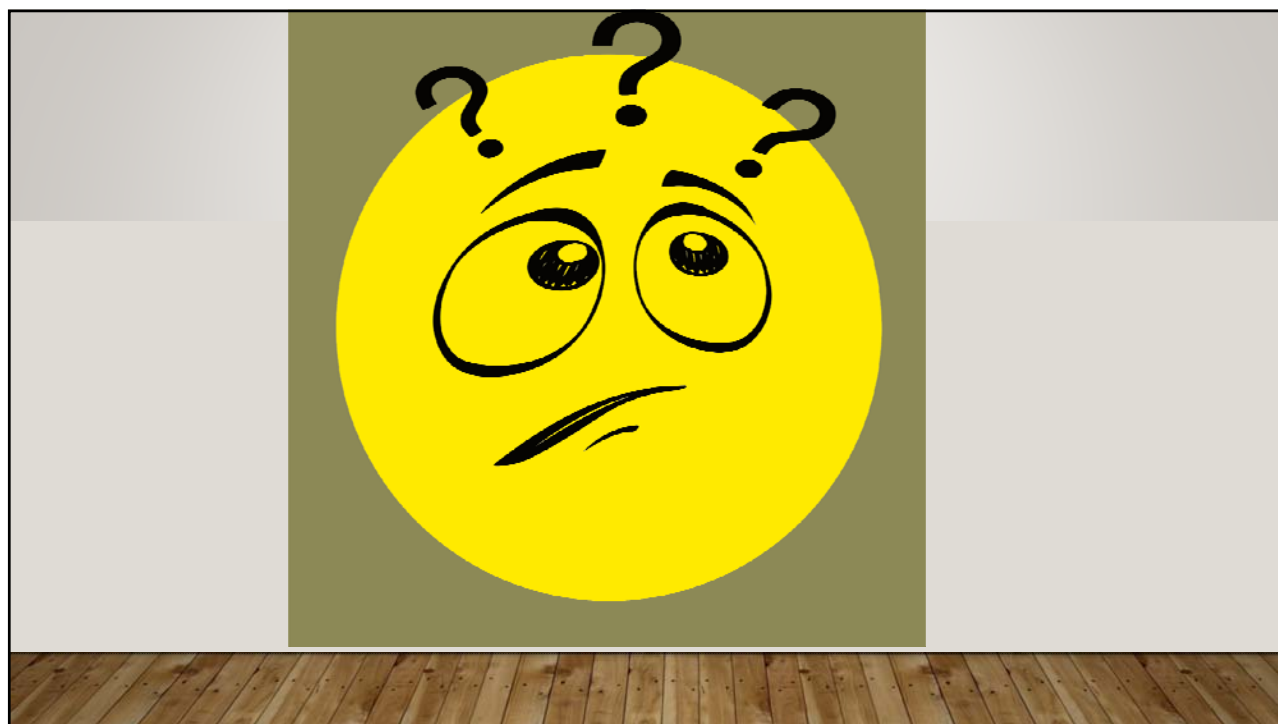
- Code the specific type when the diagnosis includes a **non-specific** term **and** a **specific** term or type **on the same branch** in Chart 1 or Chart 2
- NOS and subtype/variant of **same** NOS

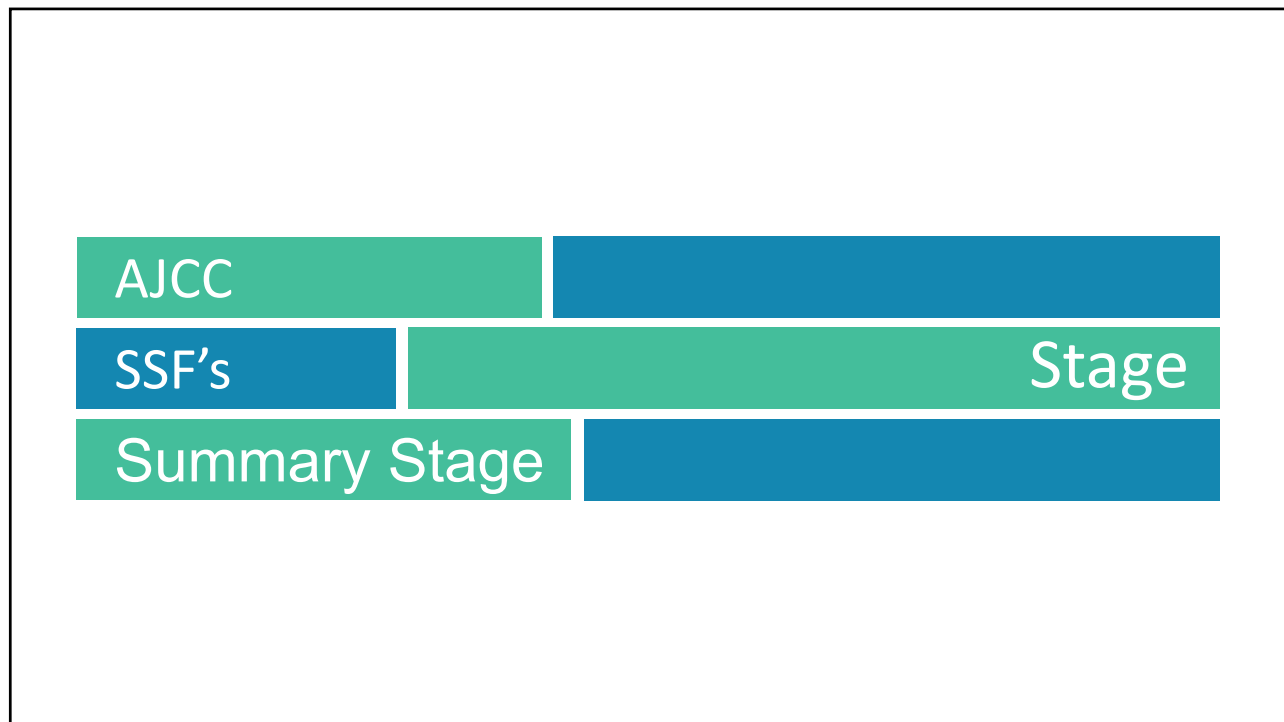
POP QUIZ

- **Pathology: WHO Grade IV astrocytoma with features consistent with secondary glioblastoma**
- **What histology code should be used?**
 - **Astrocytoma**
 - **Glioblastoma**
 - **Mixed glioma**

ANSWER AND RATIONALE

- **Code glioblastoma**
- **Glioblastoma is a subtype/variant of astrocytoma**
- **Use rule H5 and code the most specific histology, glioblastoma**





●●● AJCC Stage

- Chapter 56 page 593
 - No stage grouping
 - Excellent background information
 - Table 56.2 WHO classification of tumors of the central nervous system
 - Table 56.3 WHO grades of CNS Tumors
 - Brain Tumor Survival Data

●●● AJCC Stage

- Clinical Stage cT 88 cN 88 cM 88 Stage 88
- Pathologic Stage pT 88 pN 88 pM 88 Stage 88
- Clinical Staged by 88
- Pathologic Staged by 88
- TNM Edition 88

●●● Summary Stage 2000

- 1 Local
 - Confined to: one hemisphere in one part of brain (infra/supratentorial); meninges; invading/encroaching on ventricular system
- 5 Regional
 - crossing midline or tentorium invades bone, blood vessel, nerves, spinal cord
- 7 Distant
 - Circulating cells in CSF; extension to nasal cavity, nasopharynx, posterior pharynx; outside CNS
- 8 *Benign*
- Codes 0, 2, 3, 4 are not applicable
<https://seer.cancer.gov/tools/ssm/brain.pdf>

●●● Pop Quiz

- On what page of the Summary Stage Manual is code 8 defined?

Code Definition

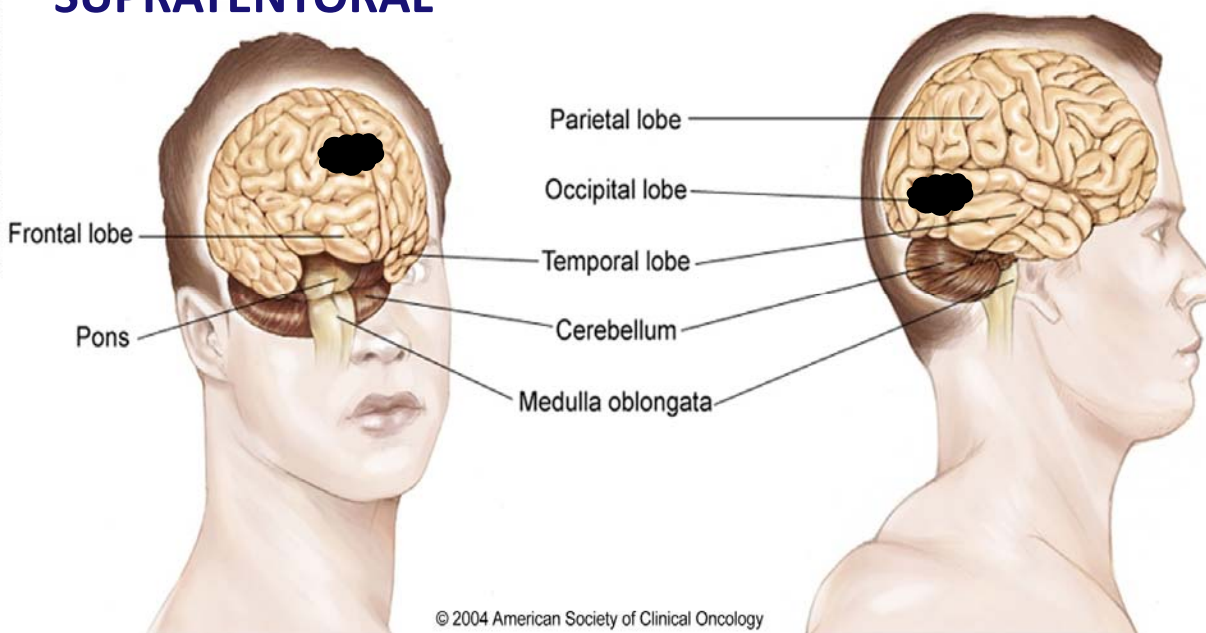
- 0 In situ
- 1 Localized only
- 2 Regional by direct extension only
- 3 Regional lymph nodes involved only
- 4 Regional by BOTH direct extension AND lymph node involvement
- 5 Regional, NOS (Not Otherwise Specified)
- 7 Distant site(s)/node(s) involved
- 9 Unknown if extension or metastasis (unstaged, unknown, or unspecified) Death certificate only case

Page 2 Summary Staging Manual 2000

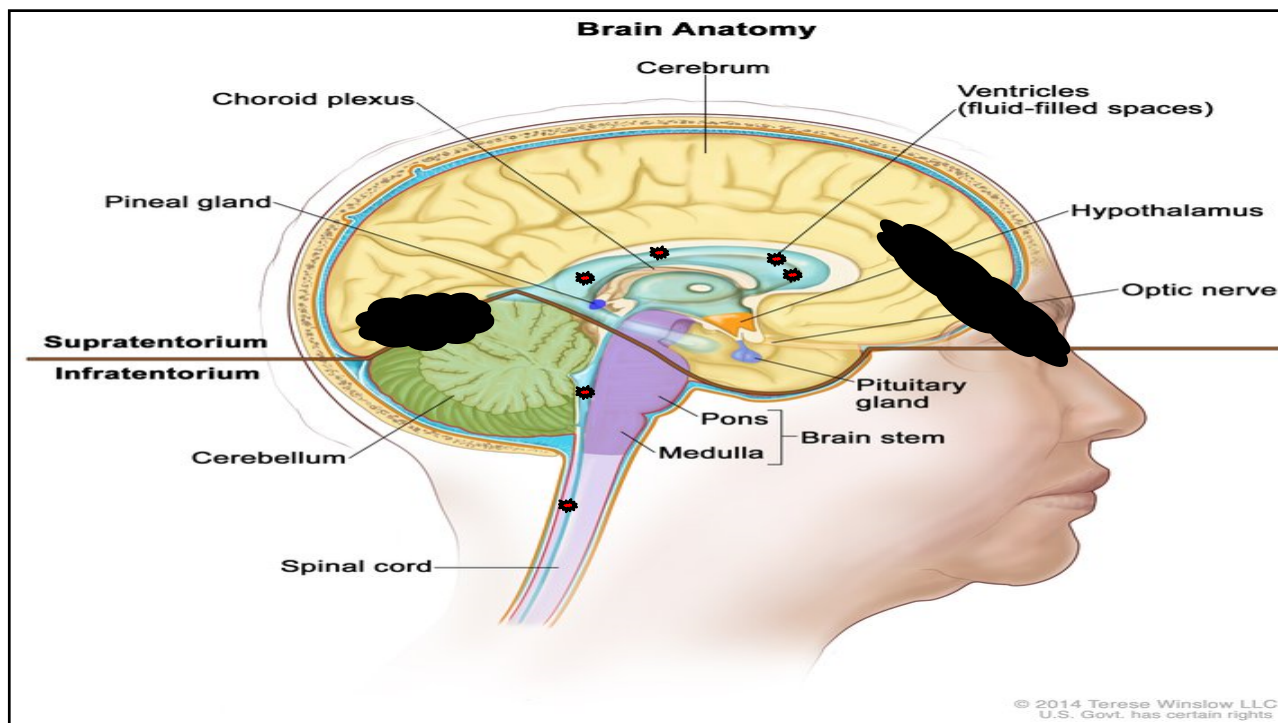
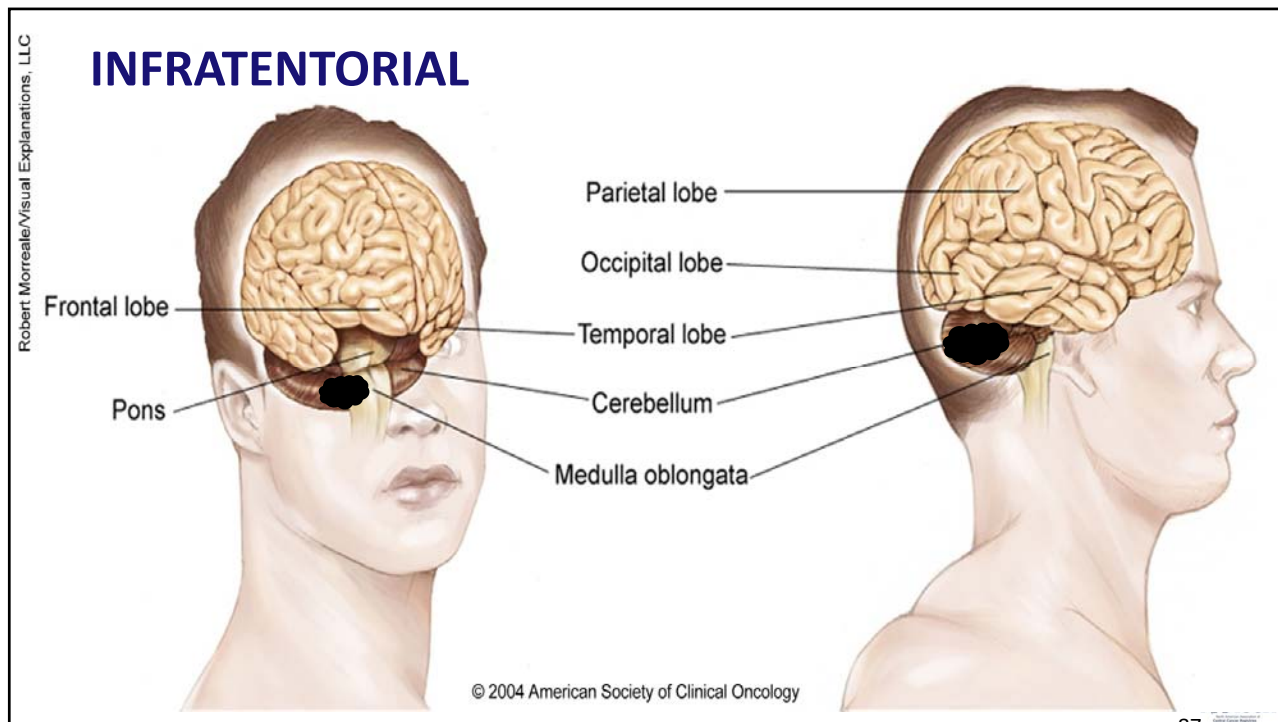
NAACCR

Robert Morreale/Visual Explanations, LLC

SUPRATENTORAL



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●●● SSF1: WHO Grade Classification

- Histologic grading classification for CNS tumors by the WHO
- Important prognostic factor for response to treatment & outcomes for CNS tumors
- Not the same as ICD-O-3 grade/differentiation
- Coded in the SSF1



●●● SSF1: WHO Grade Classification

- Code WHO grade as documented in health record
 - If WHO grade is not documented see Table 56.3 in AJCC 7th Ed. (page 596) for specific histologies with assigned WHO grade
 - *Examples:*
 - Anaplastic astrocytoma – grade III
 - Glioblastoma – grade IV
 - Meningioma – grade I



●●● SSF1: WHO Grade Classification

- Grade I: Code 010
 - Slow-growing, nonmalignant
- Grade II: Code 020
 - Slow-growing; can be nonmalignant or malignant
- Grade III: Code 030
 - Malignant
- Grade IV: Code 040
 - Very aggressive malignant tumors



●●● Grade/Differentiation

- Do not record the WHO Grade, Anne/Mayo, or Kernohan grades in the grade field
 - Record the WHO grade in Site Specific Factor 1
 - If no grade is given, code 9 (unknown)
- Anaplastic is synonymous with undifferentiated and should be assigned grade 4



●●● SSF2: Ki-67/MIB-1 Labeling Index (LI)

- Ki-67 is a nuclear protein
- Labeling index (LI)
 - Record percentage of carcinoma cells in the tissue sample with positive IHC staining for Ki-67 protein
 - Staining may be done with MIB-1 monoclonal antibody
 - May correlate with patient's clinical course
- This can typically be found in the path report as the testing will be completed on tumor tissue.



●●● SSF3: Functional Neurologic Status - Karnofsky Performance Scale (KPS)

- | | |
|---|---|
| 0: Dead | • Record the KPS as documented by physician in patient's record |
| 10: Moribund | |
| 20: Very sick | • Do NOT infer KPS from information in record |
| 30: Severely disabled | |
| 40: Disabled | • Used to compare treatment effectiveness and to assess prognosis |
| 50: Requires considerable assistance | |
| 60: Requires occasional assistance | |
| 70: Cares for self but unable to carry on normal activity | |
| 80: Normal activity with effort | |
| 90: Normal activity with minor signs disease | |
| 100: Normal with no evidence of disease | |



●●● SSF4: Methylation of O6-Methylguanine-Methyltransferase (MGMT)

- MGMT is DNA repair enzyme
- Methylation shuts down DNA repair
- Increased methylation may allow specific drugs to be effective on CNS tumors

Typically listed on an addendum to a pathology report.



●●● SSF5 & SSF6: Loss of Heterozygosity (LOH)

- LOH
 - Chromosome damage that results in failure of tumor suppression
- SSF5
 - Record results of test for LOH in chromosome 1p
- SSF6
 - Record results of test for LOH in chromosome 19q
- Typically listed on an addendum to a pathology report. Tests may be performed at same time and on single report



Questions?

••• **Coming Up....**

- 9/7/13 Coding Pitfalls
 - Special Guest: Steve Peace
- 10/5/17 Collecting Cancer Data: Prostate (new season)

••• And Our Fabulous Prizes Go To...



ICE CREAM, SHAKES & POPSICLES
 SIZZLING BBQ
 FUN IN THE SUN
 poolside
 DAD, DADDY, DADA
 SUMMER
 FLIP FLOPS
 Sunglasses



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••• CE Certificate Quiz Survey

- Phrase
- Link
 - <http://www.surveygizmo.com/s3/3744013/CNS-2017>

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Thank You!

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