



**Collecting Cancer Data:
Brain and Central Nervous System**

January 6, 2011
NAACCR 2010-2011 Webinar Series



Agenda


- Coding Moment
- Overview
- Multiple Primary/Histology Rules
- Collaborative Stage
- Treatment



Fabulous Prizes




Coding Moment




Coding Moment
Multiple Tumor Data Items

- Multiplicity Counter
- Date of Multiple Tumors
- Date of Multiple Tumors Flag
- Type of Multiple Tumors Reported as One Primary



Multiplicity Counter

1. Code number of tumors abstracted as single primary
2. Use any part of medical record to find information on number of tumors; source not limited to path report final diagnosis
3. Do not count metastatic tumors
4. Include foci in multiplicity counter when there are tumors with separate measured single or multiple foci
5. Include measured satellite lesions in the multiplicity counter



Multiplicity Counter

- 6. Use code 01
 - Single tumor in primary site
 - Single tumor with separate unmeasured tumor foci
- 7. Use code 02
 - Tumor is multifocal and there are 2 measured foci
 - Single tumor with multiple foci and 1 is measured



Multiplicity Counter

- 8. Use codes 00-87 and 99 for solid tumors including
 - Ill-defined sites; plasmacytoma, NOS; plasmacytoma, extramedullary; mast cell sarcoma; malignant histiocytosis; Langerhans cell histiocytosis; histiocytic sarcoma; Langerhans cell sarcoma; dendritic cell sarcoma; myeloid sarcoma
- 9. Use code 88 for
 - Leukemia, lymphoma, immunoproliferative disease & certain hematopoietic neoplasms, unknown primary



Multiplicity Counter

- 10. Use code 99 for
 - Original path report not available & documentation does not specify single or multiple tumors in primary site
 - Tumor is described only as diffuse or disseminated
 - Tumor is described as multifocal or multicentric and number of tumors is unknown
 - Op or path report describes multiple tumors but does not give number
 - Unknown if single or multiple tumors and multiple primary rules instruct to default to single tumor



Multiplicity Counter

- 10. Use code 99 for
 - Number of tumors is not specified for prostate primary including positive biopsy in different lobes of prostate
 - Only information available for inapparent prostate cancer is positive needle biopsy



Multiplicity Counter

- *Examples*
 - Final diagnosis: Focus of invasive ductal carcinoma, 1.2 cm, and foci of low-grade DCIS in right breast
 - Multiplicity counter = 01
 - Final diagnosis: Bilateral ovarian papillary serous cystadenocarcinoma, 2 cm tumor in right ovary and 1 cm tumor in left ovary; malignant peritoneal implant.
 - Multiplicity counter = 02



Multiplicity Counter

- *Examples*
 - Patient presented with large mediastinal mass. CT showed no intraparenchymal lung tumor. Biopsy of mediastinal mass revealed adenocarcinoma consistent with lung primary.
 - Multiplicity counter = 99
 - Sextant biopsies of right and left lobes of the prostate: Poorly differentiated adenocarcinoma in both lobes.
 - Multiplicity counter = 99



Date of Multiple Tumors

Date of Multiple Tumors Flag

- Non-date values not valid (codes 00000000, 88888888 and 99999999) in date fields beginning in record layout version 12
 - Valid dates transmitted in Date of Multiple Tumors data item
 - Date of Multiple Tumors Flag data item replaces non-date information previously transmitted in Date of Multiple Tumors data item



Type of Multiple Tumors Reported as One Primary

- Code 00: Single tumor
- Code 10: Multiple benign tumors
- Code 11: Multiple borderline tumors
- Code 12: Benign and borderline tumors
- Code 20: Multiple in situ tumors
- Code 30: In situ and invasive tumors



Type of Multiple Tumors Reported as One Primary

- Code 31: Polyp & adenocarcinoma
- Code 32: FAP with carcinoma
- Code 40: Multiple invasive tumors
- Code 80: Unknown in situ or invasive tumors
- Code 88: Not applicable for site
- Code 99: Unknown
 - Includes 'disseminated' or 'diffuse' with no further information



Type of Multiple Tumors Reported as One Primary

- *Examples*
 - 1/14/11 right lumpectomy; final path diagnosis: Multifocal invasive ductal carcinoma, 1.3 cm and 0.9cm, and low-grade DCIS
 - Type of Multiple Tumors Reported as One Primary
 - 30 (in situ and invasive)



Overview

Central Nervous System (CNS)



CNS Primaries

- Estimated new cases and deaths from brain and other nervous system cancers in the United States in 2010:
 - New cases: 22,020
 - Deaths: 13,140



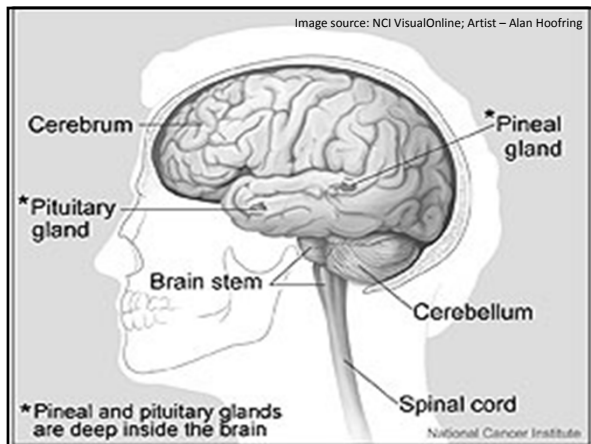
Case Eligibility for CNS Tumors

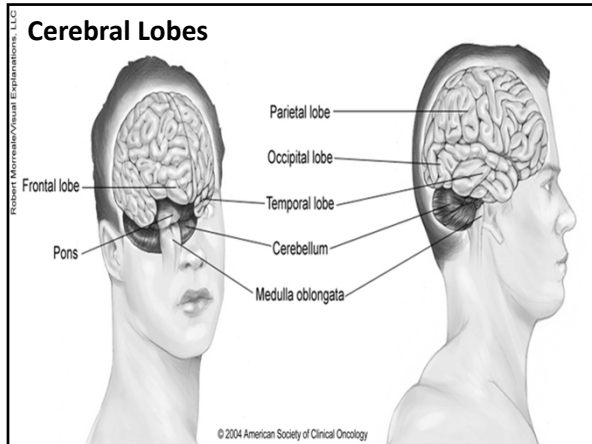
- Include ICD-O-3 malignant (behavior code 2, 3) and ICD-O-3 nonmalignant (behavior code 0, 1) diagnosed on or after 1/1/2004 tumors of the following sites:
 - Meninges (C70._)
 - Brain (C71._)
 - Spinal cord, cranial nerves, and other parts of CNS (C72._)
 - Pituitary gland (C75.1)
 - Craniopharyngeal duct (C75.2)
 - Pineal gland (C75.3)

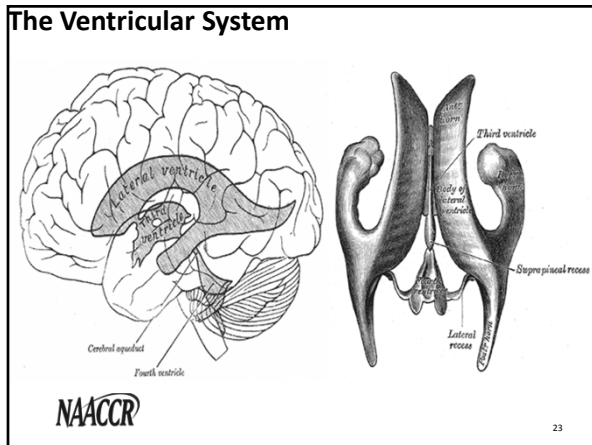


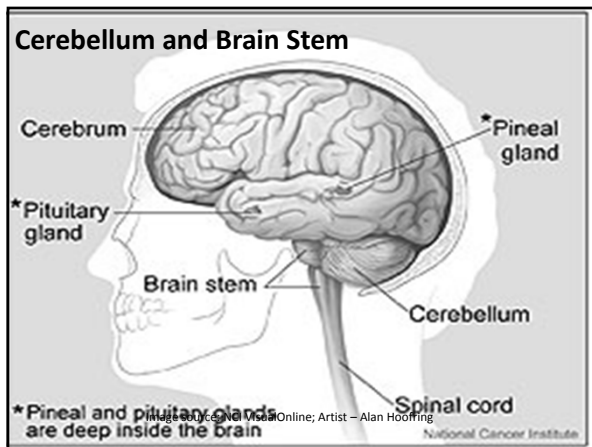
Anatomy

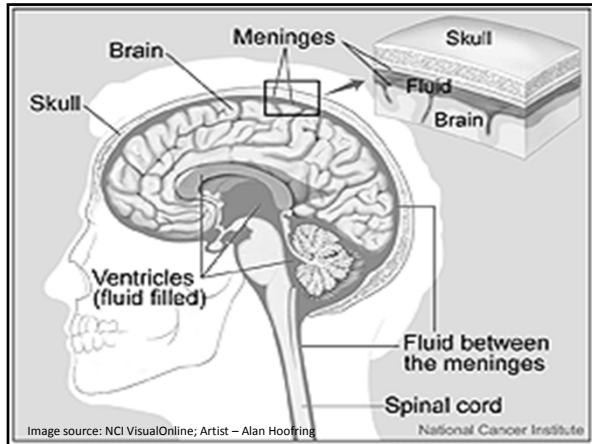


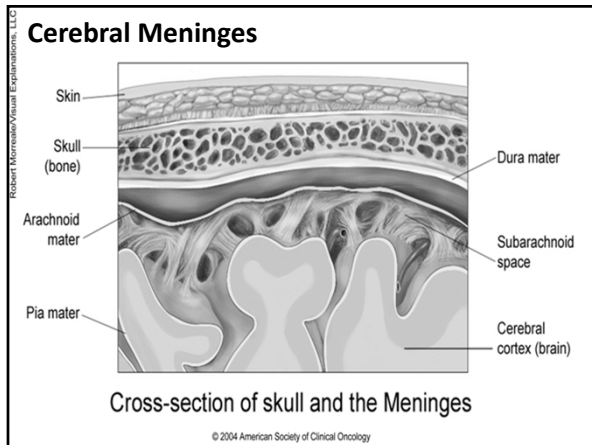












Brain Stem

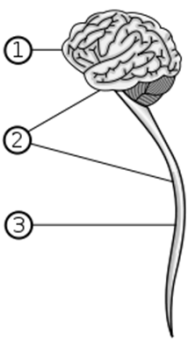
- Pons: portion of brain stem superior to medulla oblongata
- Medulla oblongata: lower portion of brain stem
 - Olive: pair of oval structures in medulla oblongata
 - Pyramid: anterior or ventral portion of medulla oblongata
- Midbrain: mesencephalon; front of brain stem
 - Cerebral peduncle: ventral portion of midbrain

Pituitary and Pineal Glands

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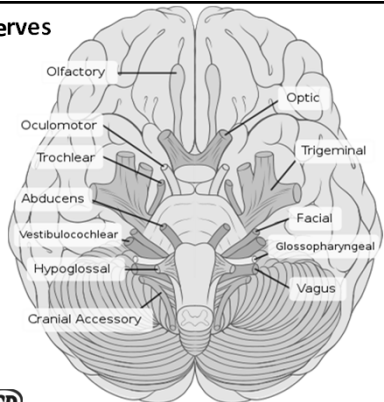
Spinal Cord

- Begins in the medulla oblongata
- Cauda equina is the distal end
- Meninges cover and protect



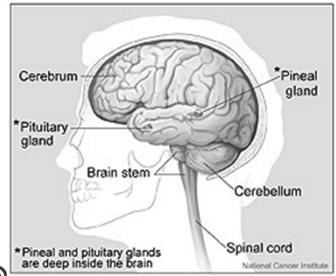
NAACCR <http://kidney.niddk.nih.gov/kudiseases/pubs/umen/images/nervesignals.gif> 28

Cranial Nerves



NAACCR Brain_human_normal_inferior_view.svg: Patrick J. Lynch, medical illustrator 29

Intracranial Endocrine Glands and Related Structures



NAACCR Image source: NCI VisualOnline; Artist - Alan Hoofring

Location of Intracranial Tissues

The Tentorium Cerebelli

Supratentorial (cerebrum)

Tentorium

Infratentorial (cerebellum)

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Image source: SEER Training Website

Location of Intracranial Tissues

- Supratentorial sites
 - Cerebrum
 - Frontal, temporal, parietal, and occipital lobes
 - Meninges of cerebrum
 - Ventricle, NOS
 - Lateral & 3rd
 - Corpus callosum
 - Tapetum
 - Anterior cranial fossa
 - Middle cranial fossa
 - Suprasellar
- Infratentorial sites
 - Cerebral subsites
 - Hypothalamus
 - Pallium
 - Thalamus
 - Cerebellum
 - Meninges of cerebellum
 - Brain Stem
 - 4th ventricle
 - Posterior cranial fossa

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Sequence Number

- 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

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Laterality

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

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

NAACCR •Assign laterality as '0' for all other CNS sites

WHO Grade for Tumors of Brain and Meninges


- WHO Grade I
 - Slow growing and nonmalignant
- WHO Grade II
 - Relatively slow growing; sometimes recur as higher grade; nonmalignant or malignant
- WHO Grade III
 - Malignant by definition; tend to recur as a higher grade
- WHO Grade IV
 - Rapidly reproducing and most malignant; very aggressive

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2007 Multiple Primary and Histology Rules


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**Benign and Borderline
CNS Tumors**



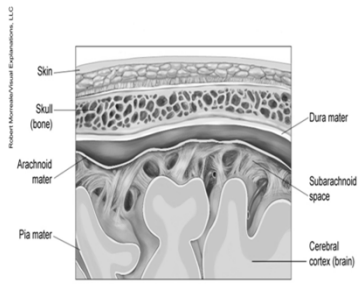
Benign and Borderline/Malignant

- Benign and borderline intracranial and CNS neoplasms must meet two conditions to be reportable:
 - The histology must be reportable **AND**
 - The primary site must be reportable




Cranial Tumors

- Report neoplasms described as intradural or intracranial
- Do not report cranial neoplasms described as extradural



Cross-section of skull and the Meninges
© 2004 American Society of Clinical Oncology



Intraspinal Tumors

- Intraspinal neoplasms arising in the dura of the spine.
 - The spinal dura is loosely attached to the spine which creates a space that is extradural (not in the dura itself) but intraspinal (within the space created by the spinal dura).
 - This intraspinal space contains the spinal nerve roots.
 - Neoplasms arising in the spinal nerve roots and the dura covering the spinal cord nerve roots are reportable (C720).



Intraspinal Tumors

- The spinal nerves extending from the spinal canal are covered with dura.
 - Neoplasms arising from the dura covering the spinal cord roots are meningiomas.
- The neoplasms arising in the spinal nerve roots are primarily schwannomas and neurofibromas.
- The peripheral nerves are the portion of nerve extending beyond the spinal dura.
 - Benign /0 or borderline /1 neoplasms of the peripheral nerves are not reportable.



Question

- Is an intradural extramedullary Schwannoma of the spinal canal reportable?



Answer

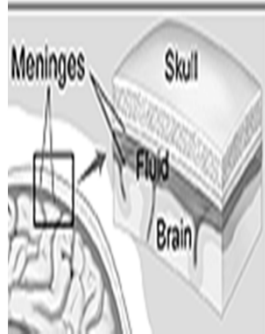
- Schwannomas are reportable when they are found in cranial nerves or intradural intramedullary (nerves within spinal cord). Extramedullary schwannomas occur in nerves outside the spinal cord and would not be reportable.

(I & R Team
48565
10/15/2010



Meningioma

- Slow growing
- Develop from the meninges
- Most are benign (WHO Grade I)
- Often detected via imaging
- Treatment is usually surgery



Multiple Primary Rules

**Benign and Borderline
Brain Tumors**



Multiple Tumors

- Rule M3
 - An invasive brain tumor (/3) and either a benign brain tumor (/0) or an uncertain/borderline brain tumor (/1) are always multiple primaries.

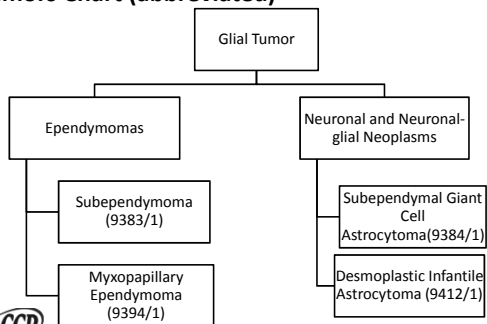


Multiple Tumors

- Rule M8
 - Tumors with two or more histologic types on the same branch in Chart 1 are a single primary.
- Rule M9
 - Tumors with multiple histologic types on different branches in Chart 1 are multiple primaries.
- Rule M10
 - Tumors with two or more histologic types and at least one of the histologies is not listed in Chart 1 are multiple primaries.



Chart 1: Benign and Borderline Intracranial and CNS Tumors Chart (abbreviated)



Multiple Tumors

- Rule M11
 - Tumors with ICD-O-3 histology codes that are different at the first (xxxx), second (xxxx) or third (xxx) number are multiple primaries.
 - *Note: Use this rule when none of the histology codes are listed in Chart 1.*



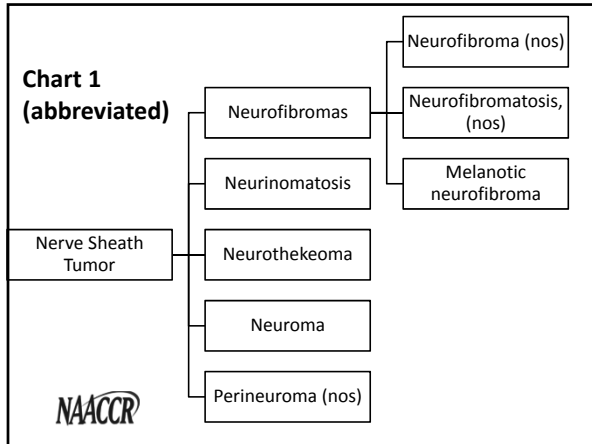
Non-Malignant CNS Histology Tumors



**Histology Rules
Single Tumor**

- Rule H2
 - Code the histology when only one histologic type is identified.
- Rule H3
 - When there are multiple histologies and all histologies are in the same branch on Chart 1, code the more specific histology.





Pop Quiz

- A patient with a history of ependyoblastoma (9392/3) diagnosed and treated in 1994 is diagnosed with a meningioma (9530/3).
 - How many primaries does this patient have?
 - How should we sequence this?


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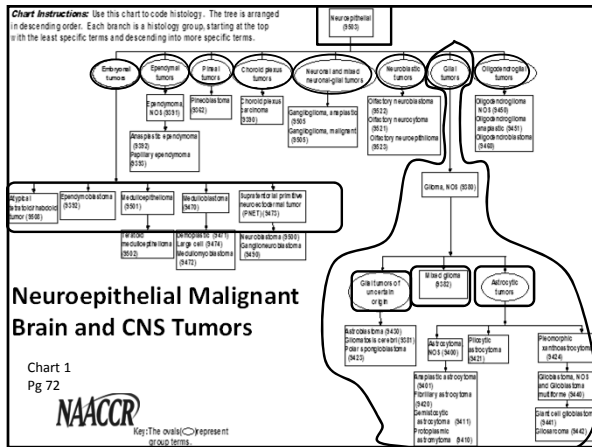
Pop Quiz

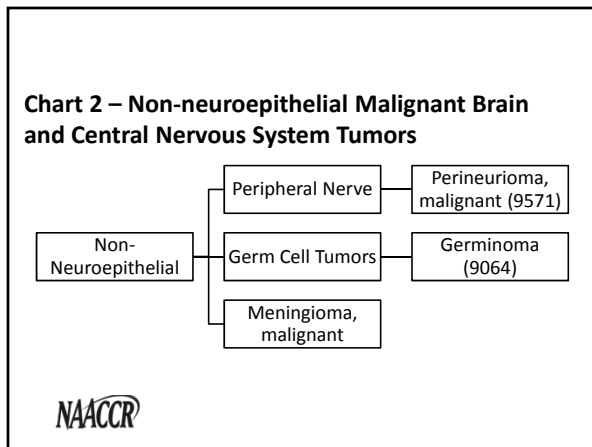
- A patient presents with a tumor in the left lateral ventricle. Pathology from a stereotactic biopsy showed a tumor with features of subependymoma (9394/1) and choroid plexus papilloma (9390/0).
 - How many primaries?
 - What histology (ies) would you assign?

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Malignant CNS Tumors









Multiple Primary Rules

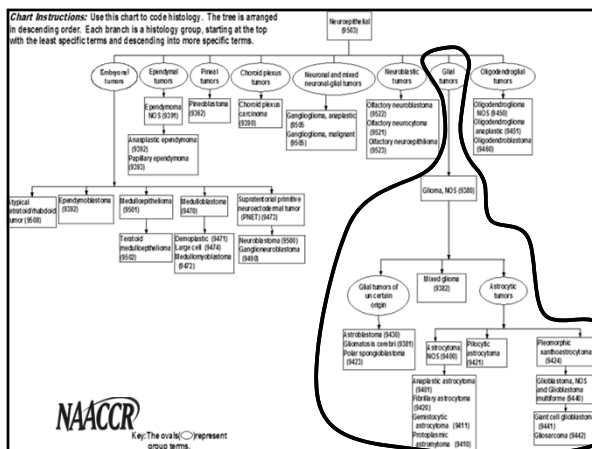
Malignant CNS Tumors

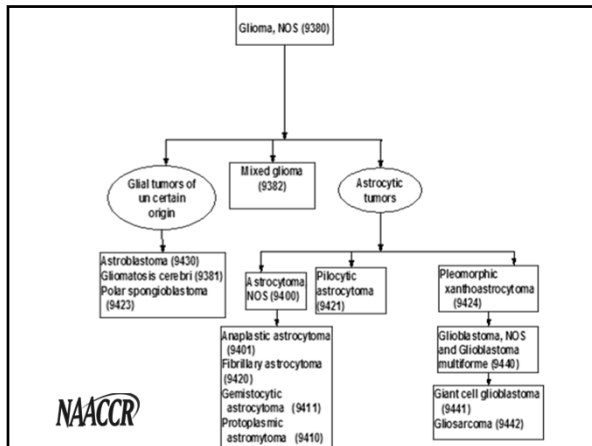


Multiple Tumors

- Rule M6
 - A glioblastoma or glioblastoma multiforme (9440) following a glial tumor is a single primary (See Chart 1).
 - Glioblastoma:
 - A malignant rapidly growing Astrocytoma of the central nervous system. These neoplasms grow rapidly, invade extensively, and occur most frequently in the cerebrum of adults. Any glial tumor can recur as a glioblastoma or a glioblastoma multiforme

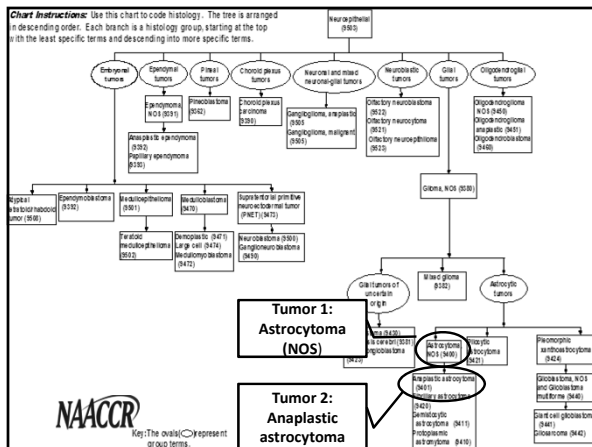


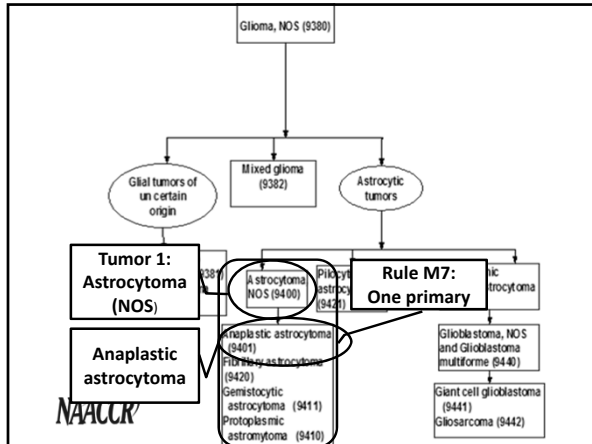


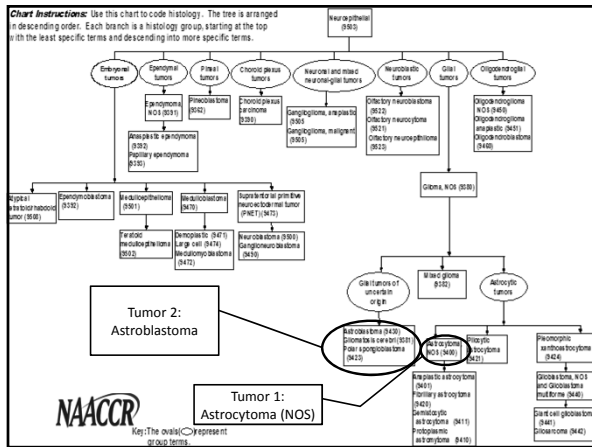


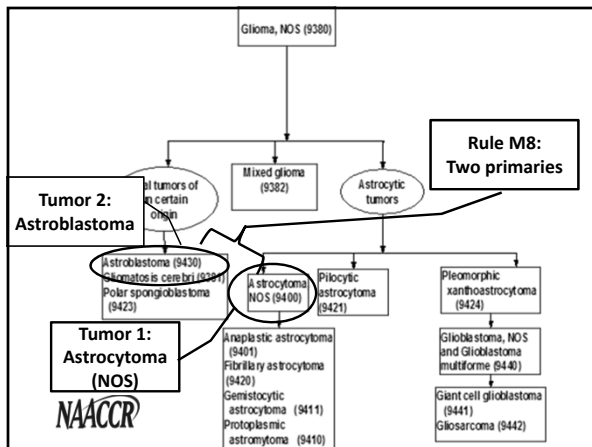
Multiple Tumors

- Rule M7
 - Tumors with ICD-O-3 histology codes on the same branch in Chart 1 or Chart 2 are a single primary.
- Rule M8
 - Tumors with ICD-O-3 histology codes on different branches in Chart 1 or Chart 2 are multiple primaries.











Histology Rules

Malignant CNS Tumors




Single Tumor

- Rule H3
 - Code 9382/3 (mixed glioma) when at least two of the following cells and/or differentiation are present:
 - Astrocytic
 - Oligodendroglial
 - Ependymal



Single Tumor

- Rule H4
 - Code the histology when only one histologic type is identified.
- Rule H5
 - 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.
- Rule H6
 - Code the histology with the numerically higher ICD-O-3 code.




Questions?



**Collaborative Stage Data
Collection System
CSv02.03**


Central Nervous System (CNS) Schemas



71


CNS Schemas

- Do not use CSv02.03 schemas until your registry software and database have been converted to CSv02.03




CSv02.03 CNS Schemas

Schema Name	Site Code
Brain	C70.0, C71.0-C71.9
CNSOther	C70.1, C70.9, C72.0-C72.5, C72.8-C72.9
IntracranialGland	C75.1, C75.2, C75.3

 73


**CSv02.03: Brain
Brain & Cerebral Meninges**

- Cerebral meninges
- Cerebrum
- Frontal lobe
- Temporal lobe
- Parietal lobe
- Occipital lobe
- Ventricle
- Cerebellum
- Brain Stem
- Overlapping lesion of brain
- Brain, NOS



CS Extension: Brain & Cerebral Meninges

- Supratentorial sites by ICD-O-3 code
 - C71.0 except hypothalamus, pallium, thalamus
 - C71.1-C71.5
 - C71.8: Corpus callosum, tapetum
 - C71.9: Anterior cranial fossa, middle cranial fossa, suprasellar



CS Extension: Brain & Cerebral Meninges

- Infratentorial site by ICD-O-3 code
 - C71.0: Hypothalamus, pallium, thalamus
 - C71.6-C71.7
 - C71.9: Posterior cranial fossa



CS Extension: Brain & Cerebral Meninges

- Benign or borderline brain tumor
 - Code 050
- Tumor confined to brain or cerebral meninges
 - Supratentorial tumor
 - Infratentorial tumor
 - Crosses midline
 - Crosses tentorium cerebelli
- Extends beyond brain or cerebral meninges



CS Extension: Brain & Cerebral Meninges

The Tentorium Cerebelli

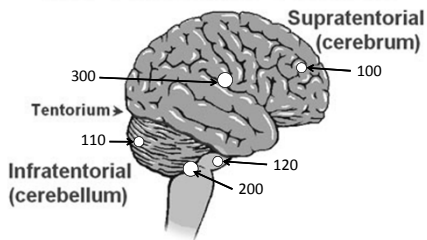
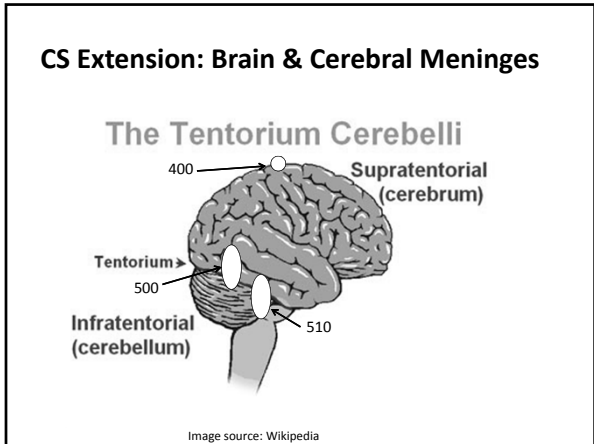


Image source: Wikipedia



CS Extension: Brain & Cerebral Meninges

- Code 600
 - Tumor invades: Bone (skull); major blood vessels; meninges; nerves, NOS; spinal cord/canal
- Code 700
 - OBSOLETE DATA RETAINED AND REVIEWED V0203
- Code 750
 - Extension to: Nasal cavity; nasopharynx; posterior pharynx; other direct extension outside CNS

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CSv02.03: CNSOther

Other Parts of CNS

- Spinal meninges
- Meninges, NOS
- Spinal cord
- Cauda equina
- Olfactory nerve
- Optic nerve
- Acoustic nerve
- Cranial nerve, NOS
- Overlapping lesion of brain & CNS
- Nervous system, NOS

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CS Extension: Other Parts of CNS

- Code 050
 - Benign or borderline tumor
- Code 100
 - Tumor confined to tissue or site of origin
- Code 300
 - Localized, NOS
- Code 400
 - Meningeal tumor infiltrates nerve; nerve tumor infiltrates meninges (dura)



CS Extension: Other Parts of CNS

- Code 500
 - Adjacent connective/soft tissue; adjacent muscle
- Code 600
 - Brain for cranial nerve tumors; major blood vessels; sphenoid & frontal sinuses (skull)
- Code 700
 - Brain except for cranial nerve tumors; bone other than skull; eye



CSv02.03: IntraCranialGland

- Pituitary gland
- Craniopharyngeal duct
- Pineal gland



CS Extension: Intracranial Glands

- Code 000
 - In situ, intraepithelial, noninvasive
- Code 050
 - Benign or borderline tumor
- Code 100
 - Invasive tumor confined to gland of origin
- Code 300
 - Localized, NOS



CS Extension: Intracranial Glands

- Code 400
 - Adjacent connective tissue
- Code 600
 - Adjacent organs/structures
 - Pituitary gland & craniopharyngeal duct
 - Cavernous sinus; infundibulum; pons; sphenoid body & sinuses
 - Pineal gland
 - Infratentorial and central brain



CS Mets at DX: Brain & Cerebral Meninges

- Code 00
 - None
- Code 10
 - OBSOLETE DATA RETAINED AND REVIEWED V0203
- Code 20
 - Metastasis within CNS and cerebrospinal fluid (CSF) pathways; drop metastasis



CS Mets at DX: Brain & Cerebral Meninges

- Code 30
 - Metastasis outside the CNS; extra-neural metastasis
- Code 50
 - 30 + 20
- Code 85
 - OBSOLETE DATA RETAINED AND REVIEWED V0203
- Code 99
 - Unknown



**CS Mets at DX
Other Parts of the Central Nervous System
Intracranial Glands**

- Code 00
 - None
- Code 10
 - Distant lymph nodes
- Code 40
 - Distant metastasis except distant lymph nodes
- Code 50
 - 40 + 10
- Code 60
 - Distant metastasis, NOS
- Code 99
 - Unknown




Other CS Data Items in CSv02.03 Schemas

- CS Tumor Size/Ext Eval = 9
- CS Lymph Nodes = 988
- CS Lymph Nodes Eval = 9
- Regional Nodes Positive = 99
- Regional Nodes Examined = 99
- CS Mets Eval = 9




Site-specific Factors in CNS Schemas

Site-specific Factor	Brain	CNSOther	IntracranialGland
SSF1: WHO Grade	X	X	X
SSF2: Ki-67/MIB-1 Labeling Index	X	X	X
SSF3: Karnofsky Performance Scale	X	X	
SSF4: Methylation of MGMT	X	X	
SSF5: Chromosome 1p: LOH	X	X	
SSF6: Chromosome 19q: LOH	X	X	
SSF7: Surgical Resection	X	X	
SSF8: Unifocal vs Multifocal Tumor	X	X	




SSF1: World Health Organization (WHO) Grade Classification

- WHO classification system
 - Combines tumor nomenclature with an associated grading system
- Do not code WHO grade in the 'grade' data item



SSF1: WHO Grade Classification

Code	Description
010	Grade I
020	Grade II
030	Grade III
040	Grade IV
988	Not applicable
998	No histologic examination of primary site
999	Not documented in medical record; unknown; WHO grade not stated



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

- Positive stains for Ki-67 indicate actively growing tumor
- KI-67 labeling index may be correlated with clinical course of cancer
- MIB-1 is monoclonal antibody that detects Ki-67 so test may be referred to as Ki-67 or MIB-1
- Ki-67/MIB-1 labeling index is expressed as a percentage



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

Code	Description
000	0% Labeling index (LI); LI stated as 0%; LI stated as less than 0.5%
001-100	1-100% (Exact LI rounded to nearest percent)
200	LI stated as normal and no percentage provided
300	LI stated as slightly elevated and no percentage provided
400	LI stated as elevated and no percentage provided
888	OBSOLETE DATA CONVERTED V0200
988	Not applicable
997	Test ordered, results not in chart
998	No histologic exam of primary site; test not done
999	Unknown; not documented in patient record



SSF3: Functional Neurologic Status – Karnofsky Performance Scale (KPS)

Code	Description
000	KPS 0
010	KPS 10
020	KPS 20
030	KPS 30
040	KPS 40
050	KPS 50
060	KPS 60
070	KPS 70
080	KPS 80
090	KPS 90
100	KPS 100
888	OBSOLETE
988	Not applicable
999	Unknown



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

- MGMT is DNA repair enzyme
- Methylation of MGMT shuts down DNA repair
- MGMT methylation is a molecular test



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

Code	Definition
010	Gene status methylated; hypermethylated; high levels of methylation
020	Gene status unmethylated; low levels of methylation
888	OBSOLETE DATA CONVERTED V0200
988	Not applicable
998	No histologic exam of primary site; test not done
999	Unknown; not documented in patient record



SSF5 and SSF6: Loss of Heterozygosity (LOH)

- Loss of heterozygosity (LOH)
 - Test on tumor tissue to identify loss of genetic material
- Chromosome 1p: LOH and Chromosome 19q: LOH
 - Tests may be performed at the same time and reported as a single report



SSF5: Chromosome 1p: Loss of Heterozygosity (LOH)

Code	Definition
010	Test positive for LOH
020	Test negative for LOH
888	OBSOLETE DATA CONVERTED V0200
988	Not applicable
997	Test ordered, results not in chart
998	No histologic exam of primary site; test not done
999	Unknown; not documented in patient record



SSF6: Chromosome 19q: Loss of Heterozygosity (LOH)

Code	Definition
010	Test positive for LOH
020	Test negative for LOH
888	OBSOLETE DATA CONVERTED V0200
988	Not applicable
997	Test ordered, results not in chart
998	No histologic exam of primary site; test not done
999	Unknown; not documented in patient record



SSF7: Surgical Resection

Code	Description
000	No surgery of primary site; autopsy only
010	Tumor destruction, NOS No specimen sent to pathology
020	Local excision (biopsy) of tumor, lesion or mass Specimen sent to pathology
021	Subtotal resection of tumor, lesion, or mass of brain (Less than half of lobe involved with tumor) Specimen sent to pathology
022	In brain schema •OBSOLETE DATA REVIEWED AND CHANGED V0203 In CNSOther schema •Resection of tumor of spinal cord or nerve



SSF7: Surgical Resection

Code	Description
030	Radical, total, gross resection of tumor, lesion or mass in brain (Less than half of lobe involved with tumor) (Not applicable for spinal cord or spinal nerve primary)
040	Partial resection of lobe of brain (Tumor involves more than half of lobe) (Not applicable for spinal cord or spinal nerve primary)
055	Gross total resection of lobe of brain (lobectomy) (Tumor involves more than half of lobe) (Not applicable for spinal cord or spinal nerve primary)
090	Surgery, NOS
988	Not applicable
999	Unknown if surgery performed; death certificate only Not documented in patient record

CS SSF8: Unifocal vs Multifocal Tumor

Code	Definition
001	Unifocal/solitary tumor
002	Multifocal tumor; tumor described as multifocal or multicentric
988	Not applicable
999	Unknown



Standard Setters SSF Requirements

- Commission on Cancer and NCI/SEER
 - Brain & CNSOther: SSF1, SSF4, SSF5, SSF6
 - IntracranialGland: SSF1
- CDC/NPCR
 - Brain, CNSOther, IntracranialGland: SSF1
- Canadian Council of Cancer Registries
 - Brain & CNSOther:
 - SSF1
 - SSF2, SSF5, SSF7, SSF8 if info is available in path report
 - SSF3, SSF6 if info is available in clinical chart
 - IntracranialGland: SSF1




Treatment




Surgical Vocabulary

- Craniectomy
 - Surgery performed on the skull where pieces of bone are removed to gain access to the brain, and the *bone pieces are not replaced.*
- Craniotomy
 - Surgery performed on the skull where a portion of bone is removed to gain access to the brain, and the *bone is put back in its place*




Surgical Vocabulary

- Craniotomies are often named for the bone being removed
- Some common craniotomies include:
 - Fronto-temporal
 - Parietal
 - Temporal
 - Sub-occipital




Surgical Vocabulary

- Retro-sigmoid craniotomy
 - Through an incision behind the ear, a small craniotomy is placed that allows access to the cerebellum, and areas along the side of the cerebellum and brainstem.
- Supra-orbital craniotomy
 - Through an incision within the eyebrow, a small craniotomy is placed above the orbit to access tumors under or within the frontal lobes and around the pituitary gland.




Surgical Vocabulary

- Gross Total Resection
 - Complete removal of a tumor as measured by the surgeon's observation (not by a microscope)



Surgery Codes



Surgery Codes

- 20 Local excision of tumor, lesion or mass; excisional biopsy
 - Used when the surgeon describes the procedure “biopsy,” or “excisional biopsy”, or when there are no details about the procedure
 - Unknown whether total or partial tumor resected
- 21 Subtotal resection of tumor, lesion or mass in brain
 - Near total, partial, subtotal, debulking, open biopsy (if residual tissue)
- 22 Resection of tumor of spinal cord nerve



Surgery Codes

- 30 Radical, total, gross resection of tumor, lesion or mass in brain
 - The resection of the brain tissue surrounding the tumor is limited to ensure clean margins.
 - New code can be used with all cases regardless of diagnosis year.




Surgery Codes

- 40 Partial resection of lobe of brain, when the surgery can not be coded as 20-30.
 - Less than lobectomy, but more than it would be necessary to ensure clean margins (when you can not code to 20 or 30)
- 55 Gross total resection
 - Lobectomy




Radiation

- External beam radiation
 - Codes 20 – 30: Orthovoltage, cobalt, photons, electrons, or neutrons
 - Code 31: Intensity modulated radiation therapy
 - IMRT
 - Code 32: Conformal radiation
 - 3D conformal radiation




Treatment Modality

- Radiosurgery
 - Code 40: Particle or proton beam
 - Code 41: Stereotactic radiosurgery NOS
 - Code 42: Linac radiosurgery
 - Cyberknife
 - Code 43: Gamma knife



Systemic Treatment

- Be sure to check any drugs that are being given in SEER Rx.
 - <http://seer.cancer.gov/tools/seerrx/>



Chemotherapy

- Chemotherapy
 - Carmustine (BCNU)
 - Intravenous
 - Gliadel® wafer (Intra-operative)
 - Temozolomide

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NCCN Guidelines

- Glioblastoma Multiforme

```
graph LR; MRI[MRI] --> TR[Total resection]; MRI --> NCTR[Not a candidate for total resection]; TR --> MR["Maximal resection +/- carmustine wafer"]; NCTR --> SB[Stereotactic biopsy]; NCTR --> OB[Open Biopsy]; NCTR --> SR[Subtotal resection];
```

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NCCN Guidelines

- High grade glioma

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graph LR; CW[Carmustine wafer] --> BR1["Beam radiation +/- concurrent and adjuvant temozolomide Or Best supportive care (if poor KPS)"]; NCW[No carmustine wafer] --> BR2["Beam radiation +/- concurrent and adjuvant temozolomide Or Best supportive care (if poor KPS)"];
```

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Questions?



121

Thank YOU!!!

- Next Month's webinar
 - Collecting Cancer Data: Testis
 - 2/3/2011



122

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 *WHO 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.

