SAVE THE DATE!

The 2012 Florida Cancer Data System Annual Conference is being held July 26th -27th, 2012 at the TradeWinds Island Resorts in St Pete Beach. The FCRA Annual conference is at the same hotel and precedes the FCDS conference.

TOPICS:

- NPCR CER & AHRQ Projects
- Quality Control - Reviews & Exercises
- Web-based Education & User Controlled Facility Profiles
- Tumor Consolidation
- Cancer Patient Portal
- Unified Case Finding Follow Back

Slides/Handouts will be available for printing prior to conference as nothing will be distributed at the meeting.

REGISTRATION ONLINE:

https://fcds.med.miami.edu/scripts/register.pl

You may visit the hotel reservation link available on the FCDS registration page (click or copy and paste link listed) or call 1-800-360-4016 and reference the group code "FCDS" to get the group rate of $139.00.

Deadline for group rate reservations is 7/9/2012.

Hotel requires a one-night deposit at reservation time. 48 hours notice for cancellation to return your deposit.

For more information contact:

Bleu Thompson
Florida Cancer Data System
PO Box 016960 (D4-11)
Miami, Florida 33101
bthompson@med.miami.edu
305-243-2635
305-243-4871 (Fax)

WHAT'S NEW:

The following information is currently available on the FCDS website.

FLORIDA ANNUAL CANCER REPORT: INCIDENCE AND MORTALITY - 2007

FCDS/NAACCR EDITs Metafile - 12.1B Metafile, posted 02/06/2012 8:15am, 12.1B Metafile changes, minor changes to Reason No Radiation edits.

FCDS/NAACCR WEBINAR SERIES: NAACCR 2011-2012 CANCER REGISTRY AND SURVEILLANCE WEBINAR SERIES - ICD-10-CM AND CANCER SURVEILLANCE, 07/12/2012, BEING HELD AT 7 FLORIDA FACILITIES AND requires registration.

Florida Cancer Data System

A Joint Project of the Sylvester Comprehensive Cancer Center and the Florida Department of Health

The Florida Cancer Data System (FCDS) is Florida's statewide, population-based cancer registry and has been collecting incidence data since 1981.

The Many Shades of Grade: Tumor Grade, Grade Path Value, Grade Path System, Bethesda, Gleason, WHO, and more

Gema G. Midence, MBA, CTR
Steven Peace, BS, CTR

"Tumor grade is a system used to classify cancer cells in terms of how abnormal they look under a microscope and how quickly the tumor is likely to grow and spread. Many factors are considered when determining tumor grade, including the structure and growth pattern of the cells. The specific factors used to determine tumor grade vary with each type of cancer." (National Cancer Institute Fact Sheet 2011)

The International Classification of Diseases for Oncology or ICD-O includes a detailed description and instructions for cancer registry coding purposes and reference codes to be used as the 6th digit of the full standard morphology code. These are to be used to code Histologic Grade/Differentiation of tumor. Furthermore, the ICD-O states that; "the grading codes can be applied to all the malignant neoplasms listed in ICD-O if the diagnosis includes information about grade or differentiation." In other words, do not use these codes for non-invasive, benign, or borderline tumors…only malignant tumors.

As simple and direct as these two definitions might sound, it has become increasingly difficult for registrars to ascertain all of the required information related to specific tumor grading, when and where tumor grade should be coded, which of the various types of tumor grading should be coded (histologic, nuclear, site-specific) as much of the terminology associated with the concept and use of the term "grade" has been muddied between pathologists, specialists, registrars, references and instruction manuals, and registry instructors.

When registrars initially are taught the concept of tumor grade they are taught the simplest concept of "histologic grade." Histologic grade, also called differentiation, refers to how much the tumor cells resemble normal cells of the same tissue type. The reference is made to malignant neoplasms only and correlates a graduated scale from Grade I meaning "well differentiated" when the malignant tumor cells are still recognizable as stomach or breast cells of origin under the microscopy to "poorly differentiated" or "undifferentiated" (Grades III and IV, respectively) which indicate the tumor cells no longer resemble the cells of origin and have mutated considerably from their once natural state. A higher code reflects a poorer prognosis. A simple 1:1 table is used to convey the message as noted below:

Code	Grade	Text Description
1	Grade I	Well Differentiated
2	Grade II	Moderately Differentiated
3	Grade III	Poorly Differentiated
4	Grade IV	Undifferentiated/Anaplastic
9	Unknown	Unknown Grade/Differentiation

The Many Shades of Grade: Tumor Grade, Grade Path Value, Grade Path System, Bethesda, Gleason, WHO, and more

Once this concept is understood, registrars are then told this same 6th digit of the morphology code is not only used to document grade/differentiation of tumor but is also used to denote cell lineage of immunophenotype for leukemia and lymphoma cases (histology code 9590 and greater). And, the waters begin to muddy as the field has two very different definitions that at times may cross-over.

Code	Immunophenotype
5	T-cell
6	B-cell
7	Null cell
8	NK Cell
9	Cell type not determined

Registrars have been able to manage pretty well with the idea of sharing two meanings in this 6th digit of the morphology code until the past 10 or so years. This is partially because both grade/differentiation and immunophenotype are rarely included in the description of the microscopic appearance of a leukemia/lymphoma case. And, in cases where they do overlap and both immunophenotype and grade are included in a pathology report there is an instruction to use the immunophenotype code over the grade/differentiation code for histologies 9590 and higher. So far so good, right?

What registrars are not taught and thus not prepared to undertake or understand is that pathologists also use the term "grade" when they examine most any type of specimen whether cytology or tissue biopsy/resection specimen anytime they use a graduated scale to compare how close to or far from normal the tissue they are examining actually appears – either visually or by special staining or other molecular/genetic testing. One such example is "nuclear grade." Nuclear grade refers to the size and shape of the nucleus in tumor cells and the percentage of tumor cells that are dividing. Similar in definition and relatively easy to infer meaning from the definition

based on histologic grade, right?

So, it turns out that the term "Grade" is used for many things for which there are shades and/or graded variation. The Bethesda System which was originally developed in the 1940s and widely accepted internationally during the 1980s as a grading system used to report outcomes from Pap Smears from cervical and vaginal cytology is a good example of a system that has undergone change through use. This system was designed to rank or grade cell appearance ranging from normal cells to less normal cells to malignant appearing cells to confirmed malignant cells. The Bethesda System provided criteria for grading abnormalities of the cervix and vagina with the range designed to encompass abnormalities ranging from metaplasia to dysplasia to neoplasia or normal to pre-malignant to malignant using a 5-grade system. The grade increases from grade I, non-malignant (normal cells) to grade IV (in-situ neoplasm) to grade V, malignant cells. The 5-grade system is now being replaced by a more generic two-grade system and documentation as to whether or not there is association of the abnormality of the tissue with HPV testing results.

Today in 2011 you are more likely to hear LGSIL (low grade squamous intraepithelial lesion) or HGSIL (high grade squamous intraepithelial lesion) than the previous Grade I-V. This is the 2001 revised Bethesda System, and is used for GYN tumors as well as Human Papilloma Virus (HPV) positive head and neck (oropharyngeal) neoplasms, anal and male genital tumors directly associated with a history of HPV exposure.

So, how does a 5-grade coding system become a 2-grade coding system over time? It is more useful now to know if a lesion is low or high grade now grade I-V. It is also now known that HPV exposure is associated with degree of differentiation or gradation, so this 5-

The Many Shades of Grade: Tumor Grade, Grade Path Value, Grade Path System, Bethesda, Gleason, WHO, and more

grade system has been reduced to a 2-grade system and still crosses over from normal to malignant cells (see diagram) and is used for multiple HPV-positive cancers that may arise in various anatomic sites. Low grade tumors are essentially not malignant or behave in non-malignant fashion and high grader tumors are malignant tumors and need to be treated as malignant tumors.
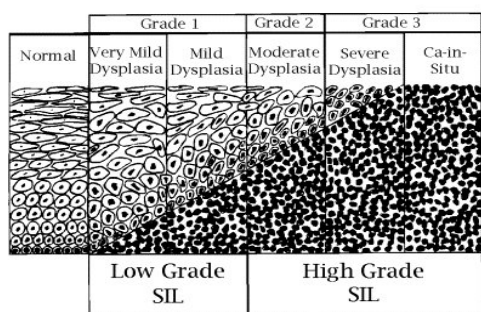
The Gleason Grading System has gone through similar changes through use and this has also resulted in what one would normally expect – mass confusion for registrars. Gleason Grading System essentially looks at pattern of glands present in prostate. Tissue samples or biopsies are stained and studied under the microscope. Prostates that show very good differentiated glands are given low Gleason Grades while those showing poor differentiation are given higher grades.

Today, when a pathologist examines a prostate cancer specimen under the microscope, he tries to identify two types of patterns in the specimen and gives them each a Gleason Grade. The first pattern or primary pattern would be the most common pattern (more than 50% of total pattern seen) observed in the specimen. Second or secondary pattern is the next pattern that is observed which occurs in less than half of tissue (minimum of 5%) present in specimen. Grades allotted to each are added up to form Gleason Score or Gleason Sum.

The Gleason Grade is also known as the Gleason Pattern and ranges from 1 to 5:

- Gleason Grade 1 – Here, cancerous tissue is well differentiated and looks like normal prostate tissue. Glands are well packed and formed.

- Gleason Grade 2 – Here, well-formed large glands have more tissue between them.

- Gleason Grade 3 – Glands begin to look darker and show signs of randomness. They seem to be breaking away from monotony of their existence and invading surrounding tissue.

- Gleason Grade 4 – Majority of glands appear to be interspersed with surrounding tissue. A few recognizable glands are still present though.

- Gleason Grade 5 – There are no recognizable glands. Cells with distinct nuclei appear in sheets within surrounding tissue.

Interpreting the Gleason Score

Gleason Scores of 2 to 4 indicate less aggressive cancer while scores of 8 to 10 are indicative of highly aggressive forms of prostate cancer. Scores of 5, 6 suggest mild aggression while 7 is that of a moderately aggressive cancer. Sometimes, Gleason Score can be tricky, for example, a score of 3+4 and 4+3 both give 7. The thing to remember is that first number is that of primary pattern and hence even though the Gleason Score is same, 4+3 indicates a far more aggressive form of cancer than 3+4. Hence, understanding breakdown of numbers is essential to imbibe the implication of Gleason Score.

The Many Shades of Grade: Tumor Grade, Grade Path Value, Grade Path System, Bethesda, Gleason, WHO, and more
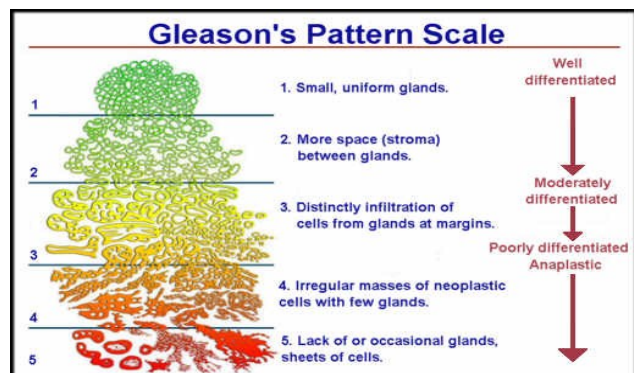
And of course there is the "grading" used in brain tumor which has nothing to do with differentiation at all. WHO Grade for brain tumors has to do with how degree of malignancy. WHO Grade I neoplasms of the brain and CNS are benign tumors. ENTER INFORMATION ON WHO GRADE FOR BRAIN/CNS TUMORS

So, now you might be able to understand a bit better why each of the Collaborative Stage Data Collection System Site Schema each now appear to have a cancer type Site Specific Factor(s) for coding "grade" of tumor for each particular type of tumor.

So, let's get back to the basic concept of tumor grade and our original single digit field "Grade/Differentiation". It appears this term and code system is too simple for today's mores sophisticated histologic grading. So, in 2009 two new fields were proposed to try to remedy this problem. They are not perfect nor are they clearly stated to be "histologic" grade, but the intent is to use these two data items to "upgrade" the original 1-digit "Grade/Differentiation" code (which is still useful and required by the way).

Grade Path Value and Grade Path System were introduced as part of the morphology coding principles for cases diagnosed on or after 2010 in order to record the pathologist's original designation of a 2, 3, or 4 grade sys-

tems. Prior to the inclusion of these two new data items, the registrar would normally translate these two items into a single data value that would serve to describe the resemblance of tumor cells to the tissue of the site of origin—the tumor's grade/differentiation. These two new data items do not replace the ICD-0 3 Grade differentiation code but rather act as a supplement to the description of the tumors aggressiveness and growth rate. Furthermore, the addition of Grade Path Value and Grade Path System fields provide valuable information drawn directly from the original path report which had previously been missed due to the coding practices prior to 2010.

Certainly, since its implementation, the introduction of Grade Path Value and Grade Path System has generated confusion in the registry community. Further adding to the confusing has been the integration of Collaborative Stage Data Collection (Version 2) which expands on specialized grades through the collection of site specific factors within the relevant coding schemas.

To better understand these new data items and become better informed on the reporting guidelines for their collection, we will begin by reviewing ICD-0 3 Grade Code and further expand on coding principles for each of these new data items.

Grade/Differentiation (NAACCR Item #440)

The words "grade" and "differentiation" are often used interchangeably and have become familiar terms to registrars who have been doing data collection in past years. The coding rules for grade/differentiation for solid tumors are found in Rule G- Code for Histologic Grading and Differentiation section of the ICD-O-3 book (pages 30-31). Grade is used to categorize (at the cellular level), a tumor's distinct features as it becomes aggressive in its formation. Though similar, grading is not to be confused

The Many Shades of Grade: Tumor Grade, Grade Path Value, Grade Path System, Bethesda, Gleason, WHO, and more

with a tumor's stage. Categories for a solid tumor's grade/differentiation range from Code 1 to Code 4, where the higher the code, the more aggressive the tumor and it's lacking in resemblance to the normal tissue of the primary tumor site.

Code 1- Well differentiated- Resembles normal tissue

Code 2- Moderately Differentiated – Somewhat resembles normal tissue

Code 3- Poorly Differentiated- Vaguely resembles the normal tissue

Code 4- Undifferentiated/Anaplastic- Lacks distinctive differentiation.

Please note, that the morphology code's 6th digit is also used to denote the immunophenotype designation for Lymphomas and Leukemias and takes priority when assigning grade/differentiation. These codes are:

> Code 5- T-Cell
>
> Code 6- B-Cell
>
> Code 7- Null Cell
>
> Code 8- NK Cell
>
> Code 9- Cell type not determined.

Grade/Differentiation, as described above is a four-grade system. However, certain two-grade and three-grade systems can be converted to a single grade.

Examples of sites which are coded using a Two-Grade coding system include: colon, recto-sigmoid junction, rectum (C18.0–C20.9), and heart (C38.0).Code these sites using a two-grade system; Low Grade (2) or High Grade (4). If the grade is listed as 1/2 or as Low Grade,

then code 2. If the grade is listed as 2/2 or as High Grade, then code 4.

Three grade systems apply to peritoneum (C48.1, C48.2), breast (C50.0–C50.9), endometrium (C54.1), fallopian tube (C57.0), prostate (C61.9), kidney (C64.9), and brain and spinal cord (C71.0–C72.9).

For sites other than breast, prostate and kidney, code the tumor grade using the following priority order:

1) Terminology; 2) Histologic Grade; and 3) Nuclear Grade as shown in the table below.

For further coding principles on two-grade and three-grade coding systems, please refer to pages 88-94 in the Data Acquisition Manual. As a reminder, do not code-grade for in-situ tumors even though the Commission on Cancer FORDS Manual instructs registrars to code grade for in-situ tumors when available (see FORDS 2011 Manual , Page 103). FCDS' coding rules indicate that all in-situ tumors should be coded to 9. The only exception to this coding rule is if a tumor has both an in-situ and invasive component. Only then should you code the differentiation for the invasive component (disregard the in-situ).

Grade Path Value (NAACCR Item #441)

Introduced as a new data item for cases diagnosed on or after January 1st, 2010, this new data item identifies the grade assigned according to the grading system (in Grade Path System- NAACCR Item #449). This item can be found anywhere in the medical record but is usually reported in the pathology report. If the biopsy or surgery was done outside of the reporting facility, Grade Path Value could be found in the history and physical, progress notes, consults, discharge summaries, or any other place in the medical record. This new data item does not replace Tumor Grade/Differentiation but is coded from the same information used for the Grade/Differentiation

The Many Shades of Grade: Tumor Grade, Grade Path Value, Grade Path System, Bethesda, Gleason, WHO, and more

data field. It should be recorded as per the stated histological grade and not be converted and coded as well/moderately/poorly differentiated, low/high, or anaplastic. If the pathology report describes the grade path system as a fraction, (x/y), grade path value is always the numerator (x) [or first number of the grade reported in a 2, 3, or 4 grade system where it is expressed as a statement, for example: "2 of 3". Please do not use this item to code the site specific grading systems in the collaborative staging since SSFs are used for that purpose. Lastly, this data field should be left blank for cases diagnosed prior to 2010.

Scenarios of when to leave this field blank:

If a numeric grade is given, but the grading system is not stated.

If another grading system is used in the pathology report.

Do not use this field for Lymphomas and hematopoietic malignancies (9590-9992)

If there is no coded value for Grade Path System, then Grade Path Value is also not coded---either both are coded or both are left blank.

Grade Path System (NAACCR Item #449)

Used in conjunction with Grade Path Value, Grade Path System indicates what type of grading system was used. Using similar coding instructions, Grade path System is the numerator (y) if the grade path system is described as a fraction (x/y) or the second number expressed in a two part statement (i.e.: "2 of 3", where grade path system is 3).

Grade path systems can be a two, three or four grade

system structure. Current "Grade/Differentiation" data fields convert all data to a 4 grade system. Grade path value and Grade Path System allow for specificity of the grade to be maintained. Furthermore, Grade Path Value can never be of a greater value than that of the reported Grade Path System. These new fields should not be used to report named grading systems such as Bloom-Richardson, Nottingham, Fuhrman, and WHO.

Scenarios of when to leave this field blank:

If no pathologic grade is available

If only a verbal description of grade is reported (i.e moderately differentiated)

If another grading system is used in the pathology report.

Do not use this field for Lymphomas and hematopoietic malignancies (9590-9992)

If there is no coded value for Grade Path Value, then Grade Path System is also not coded---either both are coded or both are left blank.

As a reminder, do not code grade for in-situ tumors even though the Commission on Cancer FORDS Manual instructs registrars to code grade for in-situ tumors when available (see FORDS 2011 Manual , Page 103). FCDS' coding rules indicate that all in-situ tumors should be coded to 9. The only exception to this coding rule is if a tumor has both an in-situ and invasive component. Only then should you code the differentiation for the invasive component (disregard the in-situ).

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NAACCR 2011-2012 Webinar Series

The Florida Cancer Data System is happy to announce that for another year we will be presenting the NAACCR Cancer Registry and Surveillance Webinar, 2011-2012 series at seven locations throughout Florida:

- **Boca Raton Regional Hospital (Boca Raton)**
- **Moffitt Cancer Center (Tampa)**
- **M.D. Anderson Cancer Center Orlando (Orlando)**
- **Shands University of Florida (Gainesville)**
- **Gulf Coast Medical Center (Panama City)**
- **Baptist Regional Cancer Center (Jacksonville)**
- **Florida Cancer Data System (Miami)**

DATE/TIME	TOPIC
07/12/2012	ICD-10-CM and Cancer Surveillance
08/02/2012	Collecting Cancer Data: Melanoma of Skin
09/06/2012	Coding Pitfalls

All NAACCR 2011-2012 Webinars presented in series are available on the FCDS website, on the Downloads page:
http://fcds.med.miami.edu/inc/teleconferences.shtml

Special thanks to the hosting facilities for their participation and support. For a complete description of the webinars, click here: https://fcds.med.miami.edu/scripts/naaccr_webinar.pl

Please go to the FCDS website to register online for your location of choice. Registration link is: https://fcds.med.miami.edu/scripts/naaccr_webinar.pl. A separate registration will be required for each webinar. The number of participants allowed to be registered for each webinar will be dependent on space availability. For more information, please contact Steve Peace at 305-243-4601 or speace@med.miami.edu.

CONGRATULATIONS TO FLORIDA'S NEW CTR'S

Shawn C. Brass

Deborah Mulini

Jennifer Brown

Tanna Oliver

Jacqueline Yvette Kenney

Karen Jenny Street

Michelle C. Lester

NAACCR CANCER REGISTRY AND SURVEILLANCE WEBINAR SERIES

Seven Florida facilities will host the 2011-2012 webinar series, *registration is required*

REGISTER FOR THE NEXT WEBINAR

FCDS *is the host site for Miami , FL with space for 25-30 participants.*

Links to each of the webinars within the 2010-2011 NAACCR Webinar series is now available on the FCDS website. You may access the recording, copy of the slides, Q&A, and CE Certificate for each webinar from the series. A CE Certificate has been provided for those viewing the recording of the webinars.

Florida Cancer Data System
Cancer Reporting Completeness Report

TOTAL NUMBER OF CASES IN THE FCDS MASTERFILE AS OF MARCH 31, 2012

Total number of *New Cases* added to the FCDS Master file in March , 2012:   **20,504**

The figures shown below reflect initial patient encounters (admissions) for cancer by year.

ADMISSION YEAR	HOSPITAL	RADIATION	AMBI/SURG	PHYSICIAN OFFICE	DERM PATH	DCO	TOTAL CASES	NEW CASES
2011	84,878	1,457	87	6,068	0	**Pending**	92,490	**17,961**
2010	161,614	8,200	103	1,459	57	**Pending**	171,433	**2,293**
2009	172,402	10,431	3,402	3,173	73	**2,187**	191,668	**250**

		Actual		Expected
% Complete for:	**2011**	**56%**		**75%**
	2010	100%		100%
	2009	100%		100%

*Expected % based on 165,000 reported cases/year

TOTAL NUMBER OF CASES IN THE FCDS MASTERFILE AS OF APRIL 30, 2012

Total number of *New Cases* added to the FCDS Master file in April, 2012:   **13,149**

The figures shown below reflect initial patient encounters (admissions) for cancer by year.

ADMISSION YEAR	HOSPITAL	RADIATION	AMBI/SURG	PHYSICIAN OFFICE	DERM PATH	DCO	TOTAL CASES	NEW CASES
2011	96,971	1,466	95	6,385	0	**Pending**	104,917	**12,427**
2010	162,150	8,288	103	1,487	57	**Pending**	172,085	**652**
2009	172,433	10,456	3,408	3,181	73	**2,187**	191,738	**70**

		Actual		Expected
% Complete for:	**2011**	**64%**		**83%**
	2010	100%		100%
	2009	100%		100%

*Expected % based on 165,000 reported cases/year