COLLEGE of AMERICAN PATHOLOGISTS

Definition of Synoptic Reporting

Synoptic reporting in surgical pathology is a style of reporting that has advantages for a variety of users of surgical pathology reports.[1-3] For pathologists, synoptic reporting can improve the completeness, accuracy, and ease of creating the report.[4-12] For clinicians, synoptic reports can make data extraction from the report both more rapid and more accurate.[13-15] For researchers and cancer registrars, synoptic reporting also ensures that these data elements are amenable to scalable data capture, interoperability, and exchange, enabling the creation of structured data sets to facilitate research.

In order to help pathologists achieve these goals, the CAP has developed a list of specific features that define *synoptic* report formatting for accreditation compliance. These include:

1. All required data elements outlined on the currently applicable surgical case summary from the cancer protocol that are included in the report must be displayed in synoptic format
    - Synoptic reporting is defined by the data element followed by its answer (response), e.g., "Tumor size: 5.5 cm." Outline format without the paired "data element: response" format is not considered synoptic.
    - The data element does not have to be identical (i.e., verbatim) to that listed in the CAP protocol and may be rephrased (e.g., for conciseness) as long as the intended meaning remains clear.
    - Multiple related elements can be combined into a single data entry, as long as the individual responses can be distinguished by the reader and as long as the intended meaning remains clear. Examples include but are not limited to:
        - Anatomic site or specimen, laterality, and procedure
        - Pathology Staging Tumor Node Metastasis (pTNM) staging elements
        - Negative margins, as long as all negative margins are specifically enumerated where applicable
        - Tumor type and grade
        - All parts of grade (e.g. “Gleason grade: 3+4 = 7 (Group 3)”)
        - Breast tubule formation, nuclear pleomorphism, and mitotic rate
        - All portions of an ancillary study result (e.g. “Estrogen receptor: Positive, 100% of cells, strong”)
        - Positive cores/total cores
        - Positive lymph nodes/total lymph nodes
        - Size (when giving more than one dimension)
    - Required data elements may be listed in any order
    - Additional methods may be used in order to enhance or achieve visual separation such as use of headers, indentations, or bolding and/or font variations
    - Additional items may be added within the synoptic report as needed
    - Required elements may appear in a summary format elsewhere in the report IN ADDITION TO but not as replacement for the synoptic report (i.e., all required elements must be in the synoptic portion of the report in the format defined above)
    - Wording of the responses is at the discretion of the reporting pathologist

Within this framework a variety of different formats are allowed. Specifically, pathologists may choose to have two separate columns for data elements and responses (may be easier to read or preferred by clinicians) or may left justify the responses. Responses can be on the same line (may be easier to read or on the following line/s. Pathologists may also choose to add additional formatting items, including Bolding/italics or indentation to increase the readability of the report. Pathologists may also choose to add additional formatting to improve natural language parsing. In some cases, the pathologist may want to include a substantial amount of information as a response, and this may be referenced using the phrase “see note”. Pathologists may use a list with filled-in checkboxes for their responses, but this is discouraged since this may easily be misread by a clinician.

The CAP has developed a few examples of synoptic reporting (attached) for the use as training tools for inspectors. Sample reports 1-7 are examples of acceptable synoptic reporting; Sample reports 8 and 9 do not show acceptable synoptic style reporting. Please refer to the specific CAP cancer protocol for further information concerning requirements for accreditation purposes.

Synoptic Report Example #1

THYROID CARCINOMA

Procedure:	Total thyroidectomy
Tumor Focality:	Single focus
Tumor Site:	Right lobe
Tumor Size:	2.3 cm
Histologic Type:	Papillary carcinoma, NOS
Margins:	Uninvolved by carcinoma
Angioinvasion:	None
Lymphatic Invasion:	Equivocal
Extra-thyroidal Extension:	Not identified
Lymph nodes, # involved:	0
Lymph nodes, # sampled:	3
Lymph nodes, levels:	Level VII
Extranodal Extension:	Not identified
Pathologic Stage Classification (AJCC 8):	pT2 pN0a

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Synoptic Report Example #2

CARCINOMA OF THE COLON OR RECTUM

TUMOR SUMMARY:	Colon
Procedure:	Left hemicolectomy
Tumor Site:	Left (descending) colon
Tumor Size:	6 cm
Tumor Perforation:	Not identified
Histologic Type:	Adenocarcinoma
Grade:	Grade 2/4, Moderately differentiated
Extent:	Invades pericolonic adipose tissue
Margins:	Free, 2cm radial
Treatment effect, primary site:	No prior treatment
Lymphovascular invasion:	Cannot be determined
Perineural invasion:	Not identified
Tumor deposits:	Not identified
Lymph nodes, # sampled:	24
Lymph nodes, # involved:	1
Stage (AJCC 8):	pT3 pN1a

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Synoptic Report Example #3

CARCINOMA OF THE PROSTATE
ADDED "|" TO IMPROVE NATURAL LANGUAGE PARSING

| Procedure:	Radical Prostatectomy
| Histologic type:	Adenocarcinoma
| Gleason primary pattern:	Grade 4
| Gleason secondary pattern:	Grade 3
| Gleason tertiary pattern:	Not applicable
| Gleason score:	Score 7
| Grade group:	Group 3
| Tumor size:	100 mm
| Extraprostatic extension:	Not identified
| Urinary bladder neck invasion:	Not identified
| Seminal vesicle invasion:	Not identified
| Margins:	Positive, focal, left posterior
| Treatment effect, primary site:	None
| Regional lymph nodes:	No lymph nodes submitted or found
| Stage (AJCC 8):	mpT2 pNX

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Synoptic Report Example #4

CARCINOMA OF THE PROSTATE
GRADES COMBINED ON TWO LINES

| TUMOR SUMMARY:	Prostate, prostatectomy
| Procedure:	Radical Prostatectomy
| Type:	Adenocarcinoma
| Grade:	Gleason grade 3+4 = 7 (Group 3)
| Gleason tertiary pattern:	Not applicable
| Tumor size:	at least 1.1 cm as measured from the glass slide
| Extraprostatic extension:	None
| Urinary bladder neck invasion:	None
| Seminal vesicle invasion:	None
| Margins:	Positive, focal, left posterior
| Treatment effect, primary site:	None
| Lymph nodes, # sampled:	0
| Stage (AJCC 8):	mpT2 pNX

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Synoptic Report Example #5

This example combines specimen, laterality, and procedure on one line, as allowed

DUCTAL CARCINOMA IN SITU OF THE BREAST

Specimen, Laterality, Procedure: Partial breast, right, excision without wire-guided localization
Estimated size of DCIS: at least 380 mm
Histologic Type: Ductal carcinoma in situ
Architectural Patterns: Solid
Nuclear Grade: Grade II (intermediate)
Necrosis: Present, focal
Margins: Margin(s) uninvolved by DCIS
Distance from closest margin: 4 mm
Specify closest margins: Superior
Regional Lymph Nodes: No lymph nodes submitted or found
Pathologic Staging (pTNM)
Primary Tumor (pT): pTis (DCIS)
Regional Lymph Nodes (pN): pNX

http://www.cap.org/ShowProperty?nodePath=/UCMCon/Contribution%20Folders/WebContent/pdf/cp-breast-dcis-17protocol-4000.pdf

Synoptic Report Example #6

LEFT BREAST MASTECTOMY:
Procedure:
- Total mastectomy (including nipple and skin)

Specimen Laterality:
- Left

Tumor Size:
- Greatest dimension of largest focus of invasion >1MM: 3.5 mm

Histologic Type:
- Invasive ductal carcinoma (no special type or otherwise specified)

Histologic Grade:
- Glandular (Acinar) / Tubular Differentiation:
  - Score 2
- Nuclear Pleomorphisim:
  - Score 1
- Mitotic Rate:
  - Score 1
- Overall Grade:
  - Grade 1

Tumor Focality:
- Single focus of invasive carcinoma

DCIS:
- No DCIS present in specimen

Invasive Carcinoma Margins:
- Margins uninvolved by invasive carcinoma
- Distance from closest margin: 25mm
- Closest Uninvolved Margin: Deep

Lymph Nodes:
- Uninvolved by tumor cells
- Total number of nodes examined (sentinel and nonsentinel): 13
- Number of sentinel lymph nodes examined: 3

Treatment Effect:
- No known presurgical therapy

Primary Tumor (pT):
- pT1a

Regional Lymph Nodes (pN):
- pN0

Estrogen and Progesterone Receptors:
- Previously performed

(HER2) ERBB2 Status:
- Previously performed

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Synoptic Report Example #7

This example uses the CAP Cancer Checklist, as allowed

Gastrointestinal Stromal Tumor (GIST)

Based on AJCC/UICC TNM, 8th edition

Procedure
___ Local excision
_X_ Resection
Specify type (eg, partial gastrectomy): ____total gastrectomy_____
___ Metastasectomy
___ Other (specify): _____
___ Not specified

Tumor Site
Specify (if known): __gastric body_____
___ Not specified

Tumor Size
Greatest dimension: _5.3_ cm
*Additional dimensions: _4.8_ x _4.5_ cm
___ Cannot be determined (see "Comment")

Tumor Focality
_X_ Unifocal
___ Multifocal
Specify number of tumors: _____
Specify size of tumors: _____

HistologicSubtype
___ Gastrointestinal stromal tumor, spindle cell type
___ Gastrointestinal stromal tumor, epithelioid type
_X_ Gastrointestinal stromal tumor, mixed
___ Gastrointestinal stromal tumor, other (specify): _____

Mitotic Rate
Specify: __2 /5 mm^2

***Necrosis**
*_X_ Not identified
*___ Present
*Extent: ___%
*___ Cannot be determined

Histologic Grade
___ GX: Grade cannot be assessed
_X_ G1: Low grade; mitotic rate ≤5/5 mm^2
___ G2: High grade, mitotic rate >5/5 mm^2

Risk Assessment
___ None
___ Very low risk
_X_ Low risk

___ Moderate risk
___ High risk
___ Overtly malignant/metastatic
___ Cannot be determined___ None

Margins
___ Cannot be assessed
_X_ Uninvolved by GIST
Distance of tumor from closest margin (millimeters or centimeters): ___ mm or ___ cm
Specify margin (if known): _____
___ Involved by GIST
Specify margin(s) (if known): _____

Regional Lymph Nodes (Note D)
_X_ No lymph nodes submitted or found

Lymph Node Examination (required only if lymph nodes are present in specimen)

Number of Lymph Nodes Involved: _____
___ Number cannot be determined (explain): _____

Number of Lymph Nodes Examined: _____
___ Number cannot be determined (explain): _____

Pathologic Stage Classification (pTNM, AJCC 8th Edition) (Note G)

Note: Reporting of pT, pN, and (when applicable) pM categories is based on information available to the pathologist at the time the report is issued. Only the applicable T, N, or M category is required for reporting; their definitions need not be included in the report. The categories (with modifiers when applicable) can be listed on 1 line or more than 1 line.

TNM Descriptors (required only if applicable) (select all that apply)
___ m (multiple)
___ r (recurrent)
___ y (posttreatment)

Primary Tumor (pT)
___ pTX: Primary tumor cannot be assessed
___ pT0: No evidence of primary tumor
___ pT1: Tumor 2 cm or less
___ pT2: Tumor more than 2 cm but not more than 5 cm
_X_ pT3: Tumor more than 5 cm but not more than 10 cm
___ pT4: Tumor more than 10 cm in greatest dimension

Regional Lymph Nodes (pN) (Note D)
_X_ pN0: No regional lymph node metastasis or unknown lymph node status
___ pN1: Regional lymph node metastasis

Distant Metastasis (pM) (Note D) (required only if confirmed pathologically in this case)
___ pM1: Distant metastasis
Specify site(s), if known: _____

+ Additional Pathologic Findings
+ Specify: _____

Ancillary Studies (Note E)

Note: For molecular genetic and further immunohistochemical study reporting, the CAP GIST Biomarker Template should be used. Pending biomarker studies should be listed in the Comments section of this report.

Immunohistochemical Studies
_X_ KIT (CD117)
    _X_ Positive
    ___ Negative
___ DOG1 (ANO1)
    ___ Positive
    ___ Negative
___ Other (specify): _____
___ Pending
___ Not performed

+ Molecular Genetic Studies (eg, *KIT, PDGFRA, BRAF, SDHA/B/C/D, or NF1* mutational analysis)
+ ___ Submitted for analysis; results pending
+ ___ Performed, see separate report: _____
+ ___ Performed
    + Specify method(s) and results: _____
+ ___ Not performed

+ Preresection Treatment (select all that apply)
+___ No known preresection therapy
+___ Previous biopsy or surgery (specify): _____
+___ Systemic therapy performed (specify type): _____
+___ Therapy performed, type not specified
+___ Not specified

Treatment Effect (Note F)
_X_ No known presurgical therapy
___ Not identified
___ Present
    + Specify percentage of viable tumor: ___%
___ Cannot be determined

+ Comment(s)

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Unacceptable Synoptic Report Example #8

COLON

Diagnosis:

Colon, right hemicolectomy:
- Invasive adenocarcinoma, 3.4 x 3.0 cm involving muscularis propria
- All margins negative
- No lymphatic invasion
- No metastatic tumor identified

NOT ACCEPTABLE AS SYNOPTIC STYLE REPORTING:
NOT ALL ELEMENTS ARE PRESENT AND DIAGNOSTIC PARAMETER PAIR IS ABSENT

Unacceptable Synoptic Report Example #9

Kidney

Diagnosis:

Kidney, Left (Radical Nephrectomy):

Clear cell adenocarcinoma, Furhman nuclear grade 3, 8.3 cm, unifocal involving upper pole of kidney and extending into the renal vein with the renal vein margin positive. Sarcomatoid features not identified.

No lymph nodes submitted, adrenal gland uninvolved, lymphatic invasion present, no venous large vessel invasion, pT3, Nx. No significant pathologic alterations identified.

NOT ACCEPTABLE AS SYNOPTIC STYLE REPORTING:
ALTHOUGH ALL REQUIRED ELEMENTS ARE PRESENT, DIAGNOSTIC PARAMETER PAIR IS ABSENT

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