

Protocol for the Examination of Specimens from Patients with Primary Malignant Tumors of the Heart

**Protocol applies to primary malignant cardiac tumors.
Hematolymphoid neoplasms are not included.**

No AJCC/UICC TNM Staging System

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Procedure

- Resection

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Surgical Pathology Cancer Case Summary (Checklist)

Protocol web posting date: October 2009

HEART: Resection**Select a single response unless otherwise indicated.****Specimen**

- ☐ Atrium
- ☐ Ventricle
- ☐ Interventricular septum
- ☐ Other (specify): _____
- ☐ Not specified

Procedure

- ☐ Resection
- ☐ Excisional biopsy
- ☐ Other (specify): _____
- ☐ Not specified

Specimen Integrity

- ☐ Intact
- ☐ Disrupted
- ☐ Indeterminate

Specimen Laterality

- ☐ Right
- ☐ Left
- ☐ Other (specify): _____
- ☐ Not specified

Tumor Site (select all that apply)

- ☐ Pericardium
- ☐ Right ventricle
- ☐ Left ventricle
- ☐ Right atrium
- ☐ Left atrium
- ☐ Interventricular septum
- ☐ Other (specify): _____
- ☐ Not specified

Tumor Size (Note A)

- ☐ Not applicable
- Greatest dimension: ____ cm
- *Additional dimensions: ____ x ____ cm
- ☐ Cannot be determined (see Comment)

* Data elements with asterisks are not required. However, these elements may be clinically important but are not yet validated or regularly used in patient management.

Histologic Type (Note B)

- ☐ Angiosarcoma
- ☐ Epithelioid hemangioendothelioma
- ☐ Malignant pleomorphic fibrous histiocytoma (MFH)/Undifferentiated pleomorphic sarcoma
- ☐ Fibrosarcoma
- ☐ Myxoid fibrosarcoma
- ☐ Rhabdomyosarcoma
- ☐ Leiomyosarcoma
- ☐ Osteosarcoma
- ☐ Synovial sarcoma
- ☐ Liposarcoma
- ☐ Other (specify): _____

Histologic Grade (Note C)

- ☐ Not applicable
- ☐ Cannot be determined
- ☐ Grade 1
- ☐ Grade 2
- ☐ Grade 3
- ☐ Other (specify): _____

Tumor Extension (select all that apply)

- ☐ Cannot be determined
- ☐ No involvement of adjacent tissue(s)
- ☐ Involvement of adjacent tissue(s) (specify): _____
- ☐ Other organ involvement (specify): _____

Margins

- ☐ Not applicable
- ☐ Cannot be assessed
- ☐ Negative for tumor
- ☐ Involved by tumor
- ☐ Specify site(s), if known: _____

Treatment Effect

- ☐ Not applicable
- ☐ Cannot be determined
- ☐ Not identified
- ☐ Present (specify: _____% residual viable tumor)

Lymph-Vascular Invasion

- ☐ Present
- ☐ Not identified
- ☐ Indeterminate

* Data elements with asterisks are not required. However, these elements may be clinically important but are not yet validated or regularly used in patient management.

***Additional Pathologic Findings (select all that apply)**

* ☐ None identified

* ☐ Inflammation

* ☐ Other (specify): _____

***Comment(s)**

* Data elements with asterisks are not required. However, these elements may be clinically important but are not yet validated or regularly used in patient management.

Explanatory Notes

A. Staging

The greatest diameter of the tumor in centimeters should be recorded. There is no published staging system for primary cardiac tumors.

B. Histologic Type

For consistency in reporting, the histologic classification published by the World Health Organization (WHO) for tumors of the heart is recommended.¹ The histologic types are listed in this protocol in the order they appear in the WHO classification. This protocol does not preclude the use of other systems of classification of histologic types.²

C. Histologic Grade

Pathologists should grade the tumor and indicate the grading system used. Most malignant tumors of the heart are sarcomas.³ Necrosis of groups of cells and mitotic rates of greater than 5 mitoses per 10 high-power fields have been associated with reduced survival.^{1,2} Parameters of the grading system for sarcomas of the Fédération Nationale des Centres de Lutte Contre le Cancer (FNCLCC) are shown below.⁴

Tumor Differentiation

- | | |
|----------|--|
| Score 1: | Sarcomas closely resembling normal adult mesenchymal tissue (eg, low-grade leiomyosarcoma) |
| Score 2: | Sarcomas for which histologic typing is certain (eg, myxoid fibrosarcoma) |
| Score 3: | Undifferentiated, angiosarcoma |

Mitotic Count

- | | |
|----------|--------------------------|
| Score 1: | 0-9 mitoses per 10 HPF* |
| Score 2: | 10-19 mitoses per 10 HPF |
| Score 3: | ≥20 mitoses per 10 HPF |

Tumor Necrosis

- | | |
|----------|---------------------|
| Score 0: | No necrosis |
| Score 1: | <50% tumor necrosis |
| Score 2: | ≥50% tumor necrosis |

Histologic Grade

- | | |
|----------|---------------------|
| Grade 1: | Total score 2, 3 |
| Grade 2 | Total score 4, 5 |
| Grade 3: | Total score 6, 7, 8 |

* A high-power field (HPF) measure 0.1734 mm²

References

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4. Trojani M, Contesso G, Coindre JM, et al. Soft-tissue sarcomas of adults: study of pathological prognostic variables and definition of a histopathological grading system. *Int J Cancer.* 1984;33:37-42.