Newly Diagnosed Solid Tumors (Diagnostic Management)
Clinical Pathway Synopsis

Objective of Clinical Pathway

To provide care standards for patients presenting with a suspected malignant or newly diagnosed solid tumor in any of the following locations: extremity, renal, suprarenal, liver, retroperitoneal, abdominal (not otherwise specified), thoracic, ovarian/uterine, or testicular.

Background

Childhood solid tumors are rare but remain the leading cause of cancer-related death in childhood.[1] These tumors differ substantially from adult cancers in their biology, molecular characteristics, and pathogenesis, often arising from a single genetic driver event.[2] As a result, they require specialized diagnostic approaches to establish an accurate diagnosis, determine risk stratification, and guide treatment planning.[3] Current recommendations from the Children's Oncology Group, the International Society for Pediatric Oncology, and other pediatric oncology groups emphasize that the timely diagnosis of newly identified solid tumors requires close coordination among clinical, imaging, and laboratory teams, with early decisions regarding imaging, biopsy approach, and tissue handling that directly affect diagnostic accuracy and treatment options.[4-7] This clinical pathway was developed to standardize the diagnostic approach and support the timely initiation of evidence-based therapy to improve outcomes for children with solid malignancies.

Target Users

- Physicians (Hematology/Oncology, Surgery, Urology, Gynecology, fellows, and residents)
- Advanced Practice Nurses
- Microbiologists
- Pathologists

Target Population

Inclusion Criteria

- Patients with suspected malignant or newly diagnosed solid tumor(s) in:
    - An extremity
    - Renal
    - Suprarenal
    - Liver
    - Retroperitoneal
    - Abdominal (not otherwise specified)
    - Thoracic
    - Ovarian/Uterine
    - Testicular

Exclusion Criteria

- Patients with suspected anterior mediastinal mass

Practice Recommendations

In lieu of a clinical practice guideline fully addressing the management of newly diagnosed solid tumors in pediatric and adolescent patients, guidance from pediatric oncologic literature was used in conjunction with the expert consensus of the Newly Diagnosed Solid Tumor Clinical Pathway Committee to inform the assessment, acute management, and referral guidance in this pathway

Additional Questions Posed by the Clinical Pathway Committee

No additional clinical questions were posed for this review.

Updates from Previous Versions of the Clinical Pathway

- Updates for the 2026 version include:
  - Which surgical expert will be the primary surgeon
  - Updates to the number of tissue samples to be collected and size

Measures

- Access of the clinical pathway (website hits)
- Utilization of associated order sets

Value Implications

The following improvements may increase value by reducing healthcare and non-monetary costs (e.g., missed school/work, loss of wages, stress) for patients and families, and by reducing costs and resource utilization for healthcare facilities.

- Decreased risk of overdiagnosis
- Decreased frequency of admission, when appropriate
- Decreased inpatient length of stay
- Decreased unwarranted variation in care

Organizational Barriers and Facilitators

Potential Barriers

- Variability of acceptable level of risk among providers (identifying urgent versus emergent patients)
- Overnight admissions
- Lack of cross-disciplinary communication prior to decisions
- Challenges with access to healthcare and health literacy faced by some families

Potential Facilitators

- Collaborative engagement across the continuum of clinical care settings and healthcare disciplines during clinical pathway development/revision
- Solid tumor email group for improved and timely communications
- Active encouragement of error prevention (STAR, ARCC, QVV) before pivotal decisions/orders

Bias Awareness

Our goal is to recognize the social determinants of health and minimize healthcare disparities, while acknowledging that unconscious biases can contribute to them.

Order Sets

- No order sets are associated with this pathway

Educational Materials

No educational materials were developed for this pathway. Education will be individualized based on tumor type and the primary service following the patient.

Clinical Pathway Preparation

This pathway was prepared by the EBP Department in collaboration with the Newly Diagnosed Solid Tumor Clinical Pathway Committee, composed of content experts at Children's Mercy.

Clinical Pathway Representation

This clinical pathway was originally created with representation from Hematology/Oncology/BMT, Orthopedics, Urology, Surgery, Gynecology, Radiology, Pathology/Laboratory Medicine, and Evidence Based Practice.

Newly Diagnosed Solid Tumor Clinical Pathway Revision Committee Members and Representation

- Joel Thompson, MD | Hematology/Oncology/BMT | Committee Chair
- Chris Halphen, DO | Orthopaedic Surgery | Committee Member

- Shahab Abdessalam, MD, FACS, FSSO | Pediatric Surgery | Committee Member
- Brenton Reading, MD | Radiology| Committee Member
- Melissa A. H. Gener, MD, FCAP | Pathology and Laboratory Medicine | Committee Member
- Ashli Lawson, MD | Gynecology | Committee Member
- Joel Koenig, MD | Urology | Committee Member
- Kris Laurence, BHS, CCRP | Hematology/Oncology/BMT | Committee Member
- Lindsey Fricke, RN, MSN, FNP-BC, CPHON | Hematology/Oncology/BMT | Committee Member

EBP Committee Members

- Todd Glenski, MD, MSHA, FASA | Anesthesiology, Evidence Based Practice
- Andrea Melanson, OTD, OTR/L | Evidence Based Practice

Clinical Pathway Development Funding

The development of this clinical pathway was underwritten by the following departments/divisions: Hematology/Oncology/BMT, Pediatric Surgery, Orthopedics, Gynecology, Urology, and Evidence Based Practice

Conflict of Interest

The contributors to the Newly Diagnosed Solid Tumor Clinical Pathway have no conflicts of interest to disclose related to the subject matter or materials discussed. For committee members identified, the conflicts of interest are as follows:

Approval Process

- This pathway was reviewed and approved by the EBP Department and the Newly Diagnosed Solid Tumor Clinical Pathway Committee after committee members garnered feedback from their respective divisions/departments.

Review Requested

Department/Unit	Date
Hematology/Oncology/BMT	June 2026
Pediatric Surgery	June 2026
Orthopedic Surgery	June 2026
Gynecology	June 2026
Urology	June 2026
Evidence Based Practice	June 2026

Version History

Date	Comments
October 2022	Version one – development of algorithms, synopsis, order set, and email group
June 2026	Version two – revised algorithms and synopsis to include updates to logistical procedures and primary surgeon, revised biopsy parameters for number and size of tissue samples.

Date for Next Review

- June 2029

Implementation & Follow-Up

- Once approved, the pathway was implemented and presented to the appropriate care teams:
  - Announcements made to relevant departments
  - Additional institution-wide announcements were made via the hospital website and relevant huddles
- Order sets consistent with recommendations were updated for each care setting
- Care measurements may be assessed and shared with appropriate care teams to determine if changes need to occur.
- Pathways are reviewed every 3 years (or sooner) and updated as necessary within the EBP Department at Children's Mercy. Pathway committees are involved with every review and update.

Disclaimer

When evidence is lacking or inconclusive, options in care are provided in the supporting documents and the order set(s) and/or order panel(s) that accompany the clinical pathway.

These clinical pathways do not establish a standard of care to be followed in every case. It is recognized that each case is different, and those involved in providing health care are expected to use their judgment to determine what is in the patient's best interests based on the circumstances at the time.

It is impossible to anticipate all possible situations and ~~to~~ prepare clinical pathways for each. Accordingly, these clinical pathways should guide care, with the understanding that departures may be required at times.

References

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