

Li-Fraumeni Syndrome Screening - Pediatric

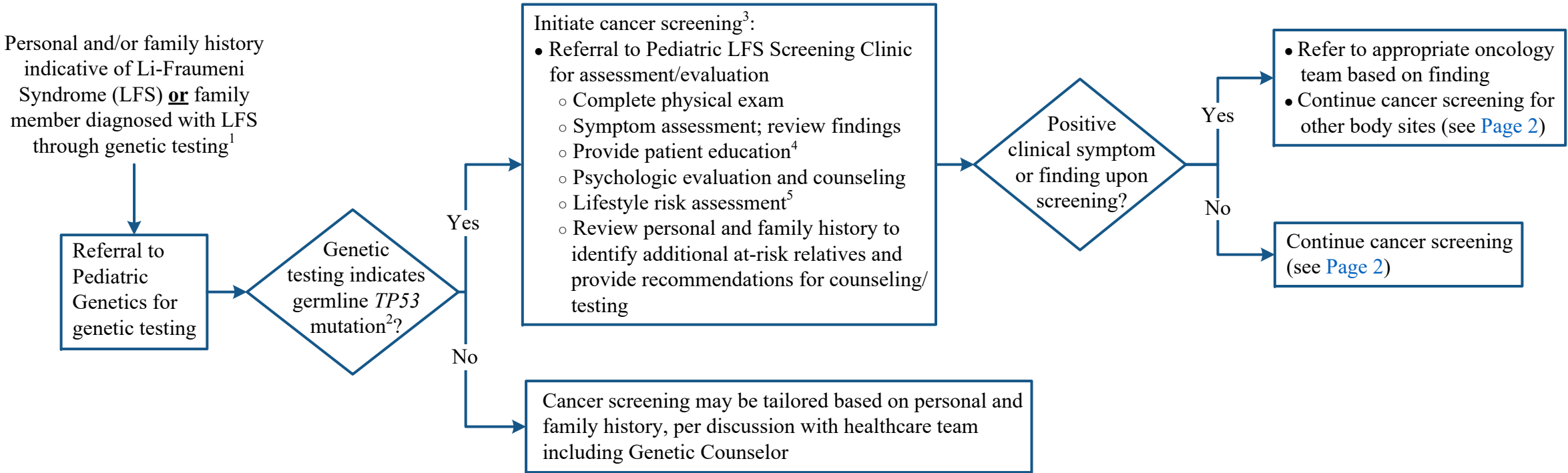
Disclaimer: This algorithm has been developed for MD Anderson using a multidisciplinary approach considering circumstances particular to MD Anderson's specific patient population, services and structure, and clinical information. This is not intended to replace the independent medical or professional judgment of physicians or other health care providers in the context of individual clinical circumstances to determine a patient's care.

Note: Screening is only intended for asymptomatic individuals. Individuals undergoing Li-Fraumeni Syndrome screening should have no co-morbidities that would limit the diagnostic evaluation or treatment of any identified problem. The screening technique should be performed with a consistent technique and process.

PRESENTATION

ASSESSMENT

RECOMMENDATION



¹ Offspring of a parent with LFS or personal and/or family history of LFS-associated cancers including adrenocortical carcinomas, breast cancer, central nervous system tumors, osteosarcomas, and soft-tissue sarcomas. Additional LFS-associated cancers include leukemia, lymphoma, gastrointestinal cancers, cancers of head and neck, kidney, larynx, lung, skin (e.g., melanoma), ovary, pancreas, prostate, testis, and thyroid. See CRIT-7 LFS testing criteria within the NCCN guidelines.

² If genetic test results do not clearly indicate whether the *TP53* mutation is germline, mosaic or somatic in nature, refer to [Li-Fraumeni Syndrome Screening - Adult algorithm](#) for process of confirmatory testing

³ See Screening Guidelines on [Page 2](#)

⁴ Refer to Patient Education: [Li-Fraumeni Syndrome \(LFS\) Screening Program - Pediatric Screening Program](#)

⁵ See [Physical Activity](#), [Nutrition](#), [Obesity Screening and Management](#), and [Tobacco Cessation Treatment](#) algorithms; ongoing reassessment of lifestyle risks should be a part of routine clinical practice

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Li-Fraumeni Syndrome Screening Program – Pediatric Screening Guidelines

Cancer	Age			Frequency
	< 1 Year Old	1-9 Years Old	10-20 Years Old	
General	Physical exam/targeted review of systems • Neurological exam	Physical exam/targeted review of systems • Neurological exam	Physical exam/targeted review of systems • Neurological exam • Skin	Every 6 to 12 months
Adrenocortical Tumor (ACT) and Others	• Education of signs and symptoms (virilization, Cushing’s Syndrome, hypertension) • Testosterone, DHEA-S, ACTH	• Education of signs and symptoms (virilization, Cushing’s Syndrome, hypertension) • Testosterone, DHEA-S, ACTH	• Education of signs and symptoms (virilization, Cushing’s Syndrome, hypertension) • Testosterone, DHEA-S, ACTH	• Every 6 months (until 10 years old) • Annually (10-20 years old)
	Ultrasound of abdomen and pelvis	Ultrasound of abdomen and pelvis	MRI whole body	• Every 6 months for ultrasound • Annually for MRI whole body
Brain	• Education of signs and symptoms (vomiting, headaches, vision changes) • MRI ¹ brain	• Education of signs and symptoms (vomiting, headaches, vision changes) • MRI ¹ brain	• Education of signs and symptoms (vomiting, headaches, vision changes) • MRI ¹ brain	Annually
Sarcoma (begin at 2-3 years of age based on family history/clinical judgement)	N/A	MRI whole body	MRI whole body	Annually
Leukemia/ Lymphoma	• Education of signs and symptoms (anemia, pallor, fatigue, bruising, petechiae) • CBC with differential, lactate dehydrogenase	• Education of signs and symptoms (anemia, pallor, fatigue, bruising, petechiae) • CBC with differential, lactate dehydrogenase	• Education of signs and symptoms (anemia, pallor, fatigue, bruising, petechiae) • CBC with differential, lactate dehydrogenase	• Every 6 months (until 10 years old) • Annually (10-20 years old)
Melanoma	N/A	N/A	Refer to Dermatology service as necessary ²	Annually

DHEA-S = dehydroepiandrosterone-sulfate ACTH = adrenocorticotrophic hormone

¹ First MRI with contrast using gadopichlenol (Vueway®); thereafter without contrast if previous MRI is negative with no new abnormality; an exception is when the MRI of the brain is performed in conjunction with the MRI of the whole body: if so, the MRI of the brain should be performed after the MRI of the whole body and take advantage of the gadopichlenol (Vueway®) injected during the MRI of the whole body.

² Refer to Dermatology if there is a concern about a skin lesion or if there is a family member diagnosed with cutaneous melanoma at a young age

Department of Clinical Effectiveness V5

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Approved by the Executive Committee of the Medical Staff on 05/20/2025

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SUGGESTED READINGS

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DEVELOPMENT CREDITS

This screening algorithm is based on majority expert opinion of the Pediatric Li-Fraumeni Syndrome workgroup at the University of Texas MD Anderson Cancer Center. It was developed using a multidisciplinary approach that included input from the following:

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