TumorNext-*Lynch*

GENETIC TESTING FOR HEREDITARY COLORECTAL OR UTERINE CANCER

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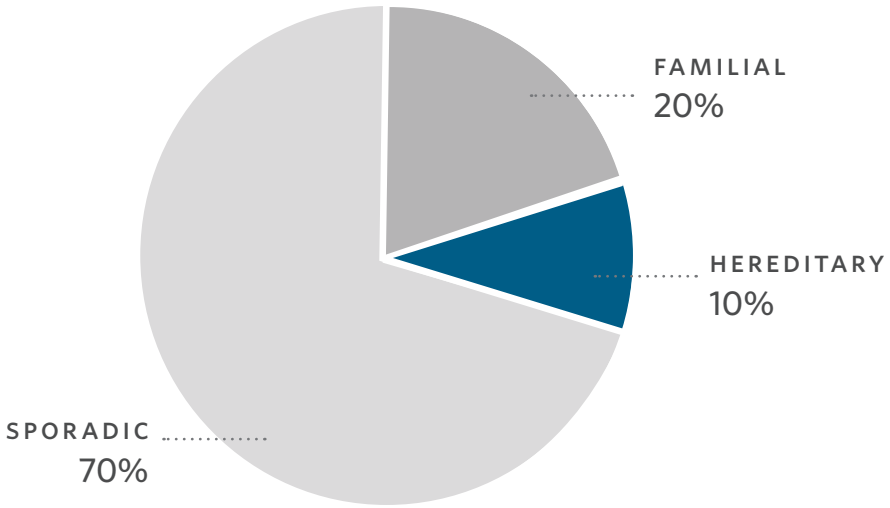
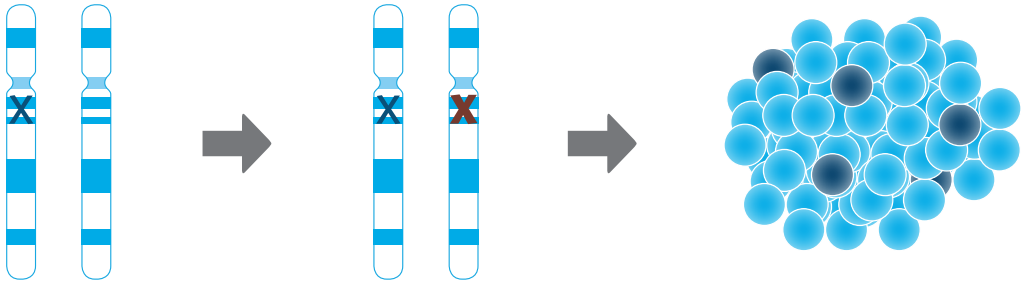
What Are the Causes of Hereditary Colorectal Cancer?



- Lynch syndrome, up to 4%
- Familial adenomatous polyposis (FAP), up to 1%
- MUTYH-associated polyposis (MAP), up to 1%
- Other rare syndromes, up to 4%

What's the Difference Between Sporadic and Hereditary Cancer?

Hereditary Cancer



At birth, one copy of the gene already carries a mutation

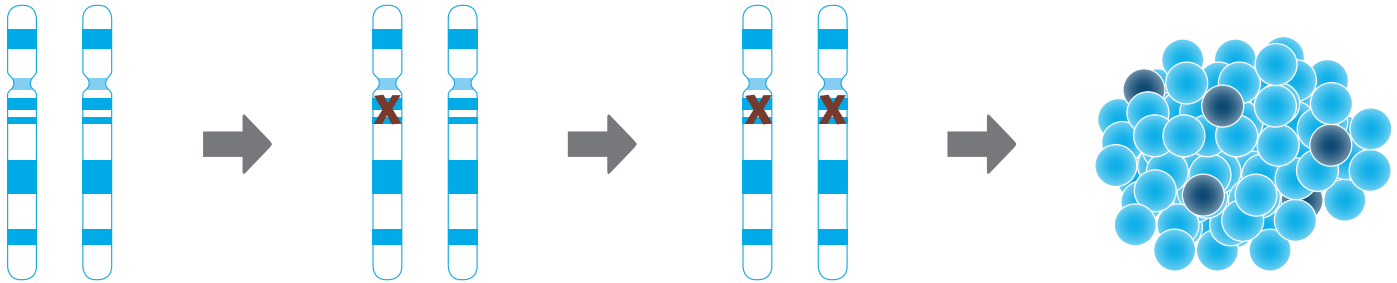
Over time, a second sporadic mutation occurs and the cell loses tumor suppressor function

Tumor develops

X Germline mutation

X Sporadic mutation

Sporadic Cancer



An individual without a hereditary cancer syndrome has no mutations at birth.

Sporadic mutations can occur for a variety of reasons.

These mutations accumulate over time and eventually occur in both copies of a gene important for cancer protection.

Tumor develops

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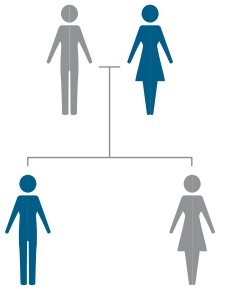
What's the Difference Between Germline and Somatic Mutations?

	WHAT IS TESTED?	INHERITANCE	RISKS
INHERITED (GERMLINE)	Blood or saliva Genes that are identical in all cells of your body	Can be inherited and passed on to family members	Linked to an increased risk for other cancer(s)
TUMOR (SOMATIC)	Your tumor tissue for cancer-specific changes	Not inherited and only present in your tumor cells. Cannot be passed to family members	Does not increase your risk for other cancers Can impact your treatment

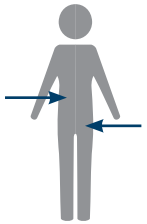
What is Lynch Syndrome?

An estimated
1/279 - 1/440
Americans has
Lynch syndrome

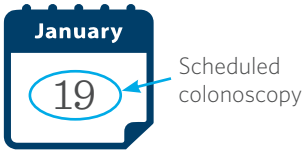
Caused by inherited mutations in a **mismatch repair (MMR) gene** (*MLH1, MSH2, MSH6, PMS2*) or *EPCAM*



Causes **increased risks** of certain cancers, including colorectal and uterine.



Identifying patients with Lynch syndrome is key to **early detection** and **prevention**.



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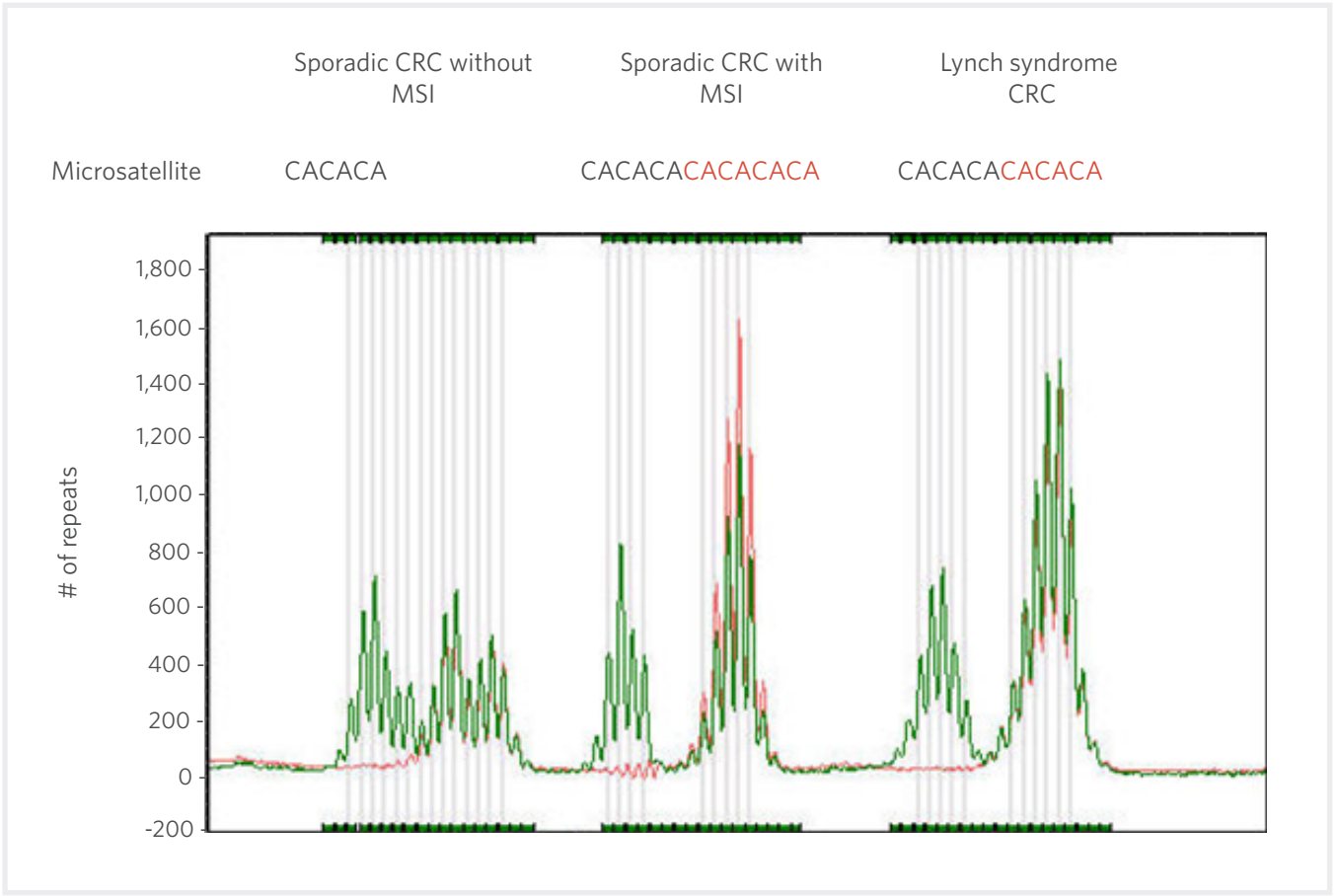
Universal Screening: Using MSI/IHC to Find Patients with Lynch Syndrome

Microsatellite Instability (MSI) Testing	Looks for DNA instability in tumors, which is a feature of Lynch syndrome.
Immunohistochemical (IHC) Analysis	Looks for missing mismatch repair proteins in tumors, which is a sign of Lynch syndrome.

Microsatellite Instability Testing



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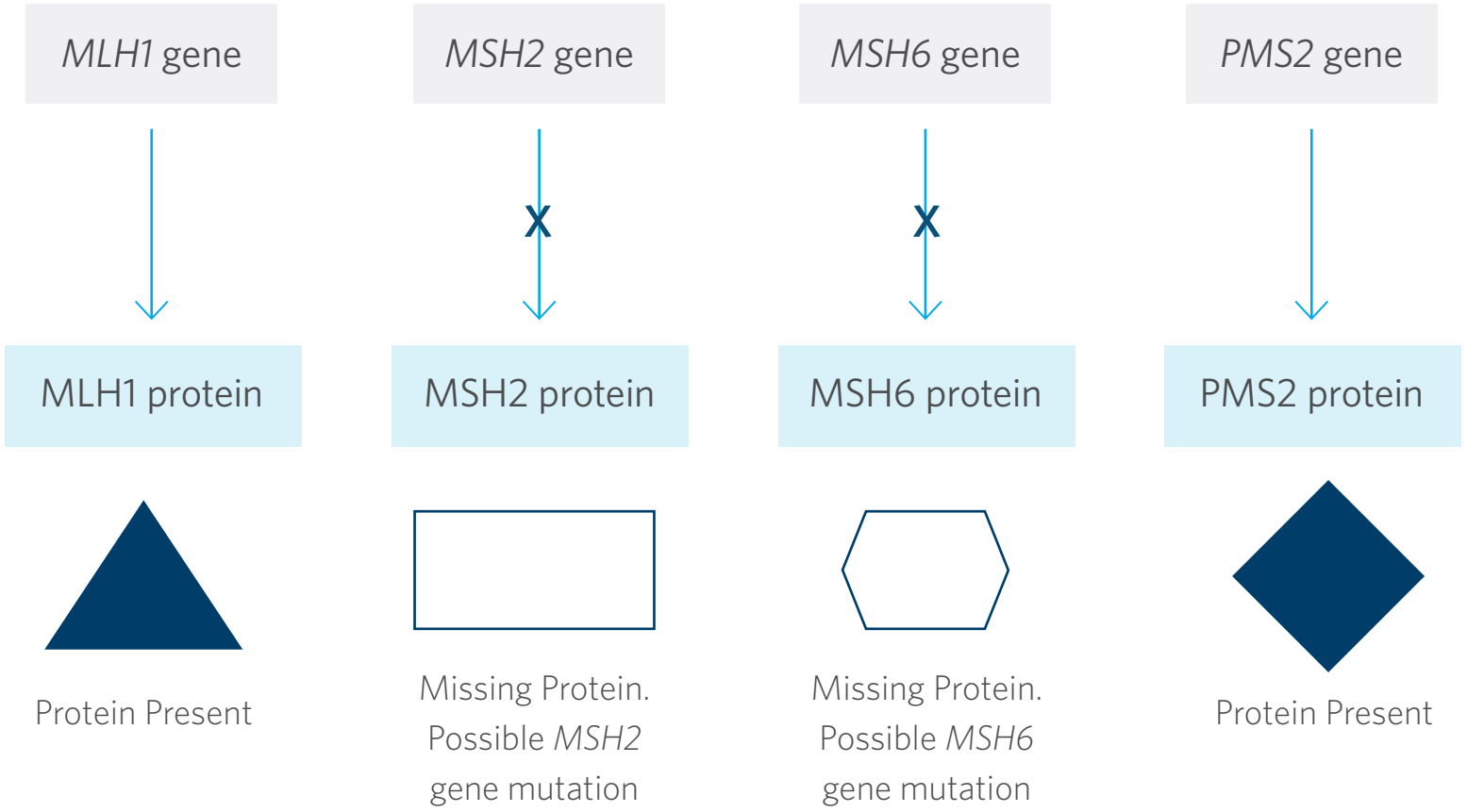
Immunohistochemistry (IHC)

Absence of a Protein Suggests a Mutation in the Corresponding Gene



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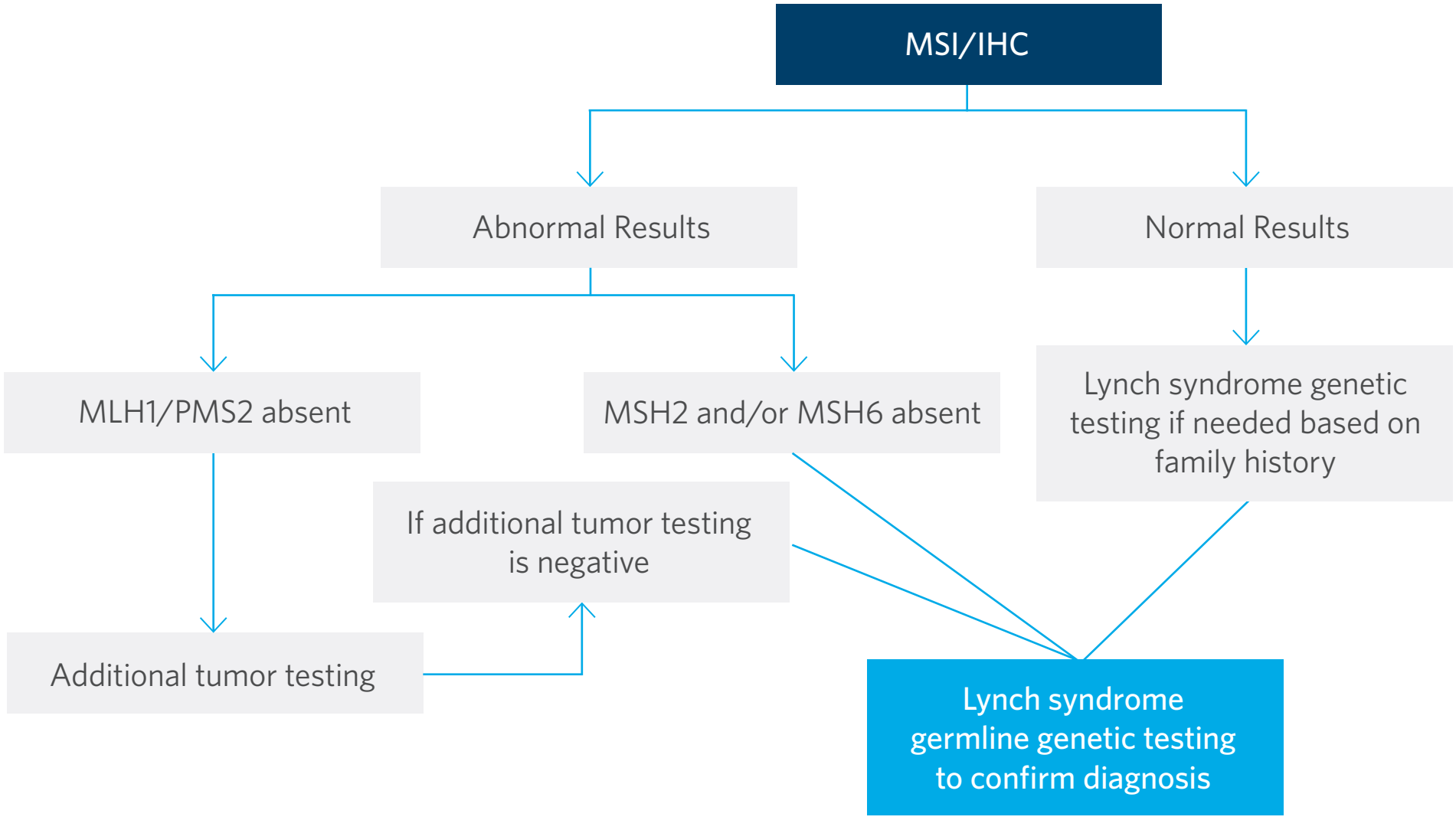
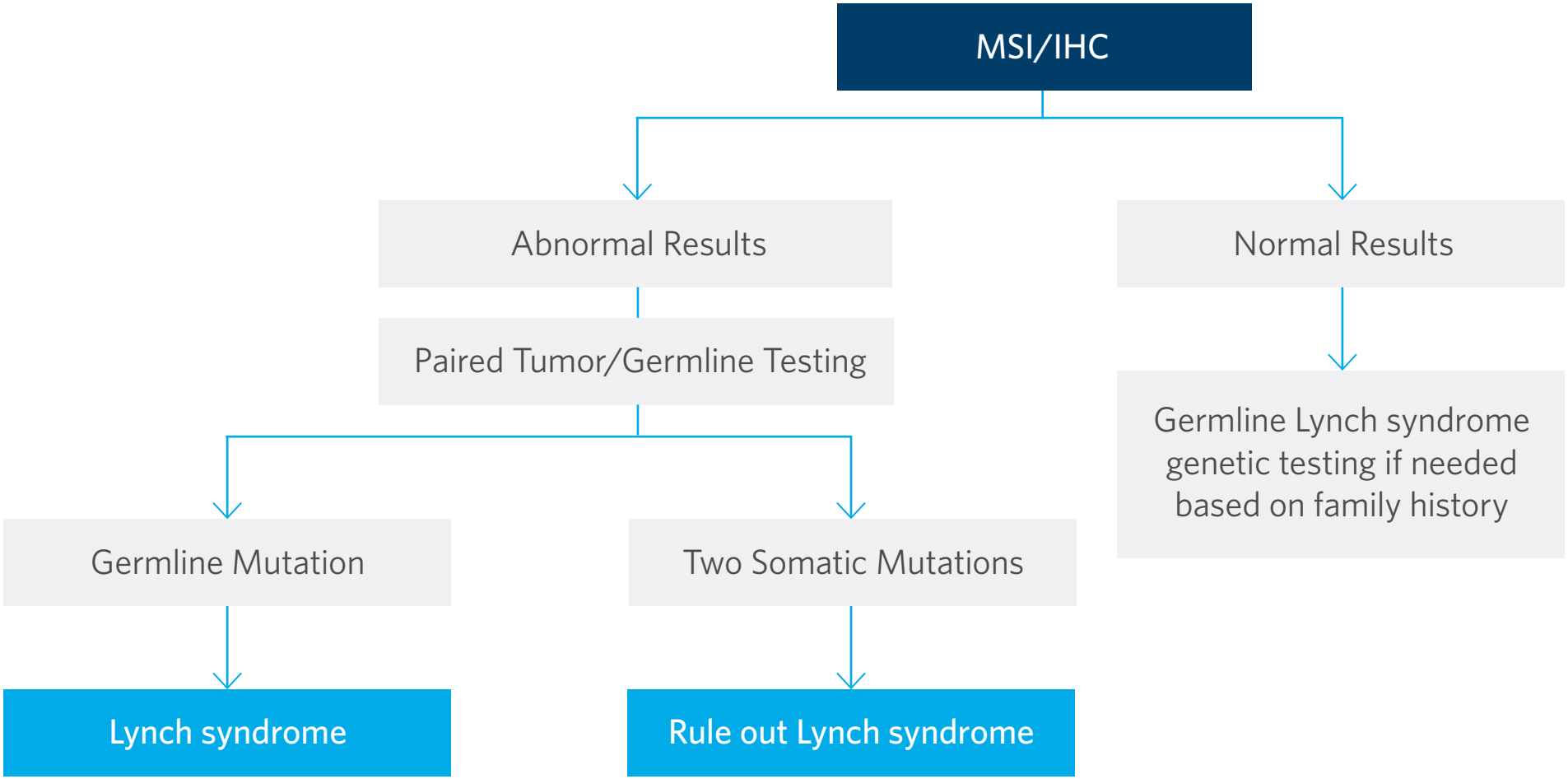
Historical Universal Screening



Testing with TumorNext-*Lynch*



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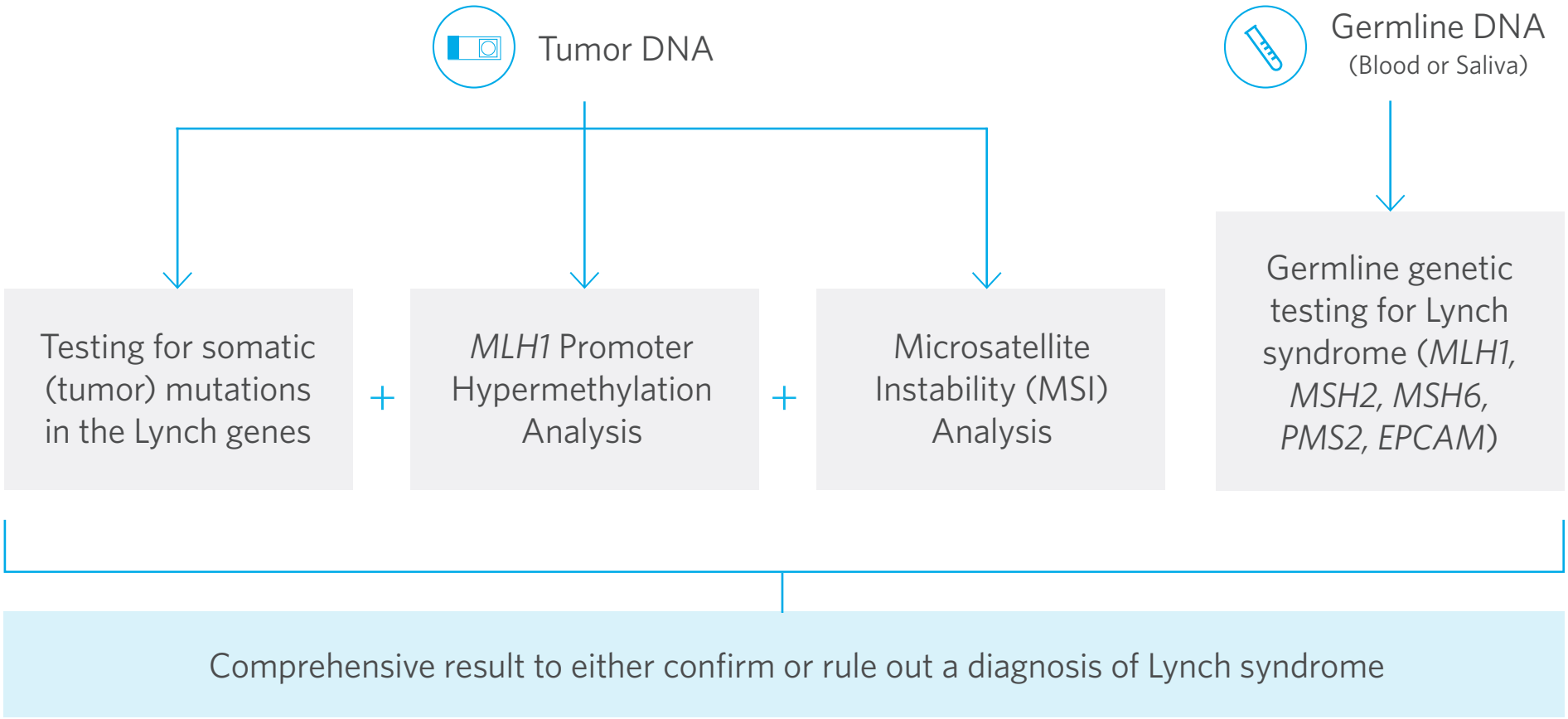
TumorNext-*Lynch* – what are we testing for?



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Possible Results from TumorNext-*Lynch*

GENETIC TEST RESULTS	MEANING	IMPLICATIONS
Germline mutation identified	Diagnosis of Lynch syndrome	Medical management based on cancer risks specific to gene mutation Targeted testing available to at-risk relatives
Two somatic mutations identified	Abnormal screening results explained by changes isolated to tumor	Rules out Lynch syndrome. Cancer risks and management based on personal and family history
No germline mutation and no somatic mutations that explain screening results	Inconclusive result	Cancer risks and management based on personal and family history