CardioHemeRISK™

Physician Brochure

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Detect Silent Threats Earlier

Heart Attack, Stroke, and Leukemia

1 in 4

Heart Attack

patients have no known risk factors[1]

1 in 5

Stroke

patients have no known risk factors[2]

1 in 3

Leukemia

cases are diagnosed in the emergency room[3]

Now Detectable with

CardioHemeRISK™

CH Mutations

are Silent Early Markers of Disease Risk [4-8]

Clonal hematopoiesis (CH) is an aging and lifestyle-related condition where a hematopoietic stem cell acquires a mutation that gives it a growth advantage and leads to an expanded population of blood cells with that mutation. Compared to the general population, individuals with CH mutations have a higher risk# of:

Heart Attack

12x [4*]

Stroke

3.1x [5†]

Leukemia

12.9x [6§]

Anti-inflammatory drugs have been shown to reduce CH levels in exploratory studies.[9, 10]

#Risk was derived from publications measuring hazard ratios (HR) of patients with CH mutations > 10% variant allele frequency (VAF).
*Early onset myocardial infarction: HR = 12; 95% CI, 3.8–38; P < 0.001.
†Ischemic stroke: HR = 3.1; 95% CI, 1.2–8.4; P = 0.025.
§Hematologic cancer: HR = 12.9; 95% CI, 5.8–28.7; P < 0.001.

CardioHemeRISK™

Your Window into Hidden Risk

CardioHemeRISK™ is a liquid biopsy-based NGS test that detects aging and lifestyle-related CH mutations in 15 genes using Lucence's mirror barcoding technology.

Ordering Process

1

Draw 2 x 10 ml Streck tubes of blood

2

Test for CH mutations

3

Generate a CardioHemeRISK™ score in 12 working days

CardioHemeRISK™

Results Interpretation

CardioHemeRISK™ scoring estimates the risk of heart attacks, strokes and leukemia based on the CH variant with the highest detected VAF in combination with the risk conferred by the specific variant(s) detected.

CardioHemeRISK™ Score Highest Variant Allele Frequency	Clonal Hematopoiesis (CH) Category	Possible Predicted Risk*			Recommendation↑
		Heart Attack	Stroke	Leukemia	
0.0	Not Detected	○	○	○	Repeat in 3 years↑
> 0.0 to < 0.5	Trace	○	○	○ ● ●	Repeat in 3 years↑
0.5 to < 2.0	Slightly Elevated	●	○	○ ● ●	Repeat in 3 years↑
2.0 to < 10.0	Moderately Elevated	●	●	● ●	Repeat annually
≥ 10.0	Highly Elevated	● ●	● ●	●	Repeat annually

*Please check your report for the specific genes giving rise to the risk level identified and the corresponding testing interval.

Risk categories are based on hazard ratios (HR) reported in studies of clonal hematopoiesis: ○ Average Risk: HR < 1.1 ● Mildly Elevated Risk: HR = 1.1 to 1.5 ● Moderately Elevated Risk: HR > 1.5 to 2.0 ● High Risk: HR > 2.0 ↑ Regular evaluation of CH mutations at 1 to 3 year intervals can be considered by clinicians if myeloid-significant mutations (*JAK2* V617F, *CALR*, *MPL*, *IDH1/2*, *FLT3*, etc.) are detected and the associated risk for leukemia is mildly or moderately elevated.

Gene List

ASXL1	*CALR*	*DNMT3A*	*FLT3*	*IDH1*
IDH2	*JAK2*	*MPL*	*PPM1D*	*RUNX1*
SF3B1	*SRSF2*	*TET2*	*TP53*	*U2AF1*

Specifications for Clonal Hematopoiesis Detection

	Limit of Detection	Specificity	Sensitivity
Single Nucleotide Variants (SNVs)	0.05%	>99%	>92%
Insertion / Deletion (Indels)	0.05%	>99%	>91%

Test performance specifications are determined using commercial genomic DNA standards for specific variants at varying allele frequencies.

Recommended for

Healthy individuals
aged above 40 and below 80

Cancer survivors previously treated
with chemotherapy or radiation

Individuals with a history of atherosclerotic disease such as coronary artery disease (CAD) or ischemic stroke

Asymptomatic individuals with additional risk factors for atherosclerotic disease such as family history, hypertension, hyperlipidemia

Treatment

Weight management reduces CH progression.[11]

There are no drugs currently approved for preventive care for CH in healthy individuals.

Multiple anti-inflammatory and antithrombotic therapies are under investigation.

Risk-based screening for the various diseases and lifestyle modifications such as exercise, nutrition and smoking cessation are a foundation for individualized management.

Note: Testing is not recommended for patients who have received an allogenic bone marrow transplant or a recent blood transfusion (<2 weeks). Patients should refrain from heavy meals 4 hours before blood draw.

References:

1. Paul, G. et al. Global Heart 2023; 18(1): doi: 10.5334/gh.1189.
2. Beharry, J. et al. Eur Stroke J 2025; doi: 10.1177/23969873241309516.
3. Leukaemia Care. Leukaemia UK. Published September 4, 2022. Accessed May 2, 2025. https://www.leukaemiauk.org.uk/news/worrying-numbers-ofleukaemia-patients/.
4. Jaiswal, S. et al. N Engl J Med 2017; 377(2): 111-121. PMID: 28636844.
5. Jaiswal, S. et al. N Engl J Med 2014; 371(26): 2488-2498. PMID: 25426837.
6. Genovese, G. et al. N Engl J Med 2014; 371: 2477-2487. PMID: 25426838.
7. Weeks, L. et al. NEJM Evid 2023; 2(5): 10.1056/evi-doa2200310.
8. Pich, O. et al. N Engl J Med 2025; 392: 1594-1608.
9. Mohammadnia N, J Am Coll Cardiol 2025:S0735-1097(25)074716. doi: https://doi.org/10.1016/j.jacc.2025.08.025
10. Tardif, J-C. et al. medRxiv 2024; doi: https://doi.org/10.1101/2024.10.17.24315679
11. Andersson-Assarsson, J. et al. EBioMedicine 2023; 92:104621.

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