



## **Know a more comprehensive story:** the role of injury and inflammation in cardiovascular disease risk

### **Lipids + inflammation = cardiovascular disease progression**

In 1976, Dr Russell Ross and Dr John Glomset published the response-to-injury hypothesis.<sup>1</sup> This revealed that atherosclerosis is initiated through injury—the infiltration of low-density lipoprotein (LDL) particles into the arterial wall—and propagated through inflammation.

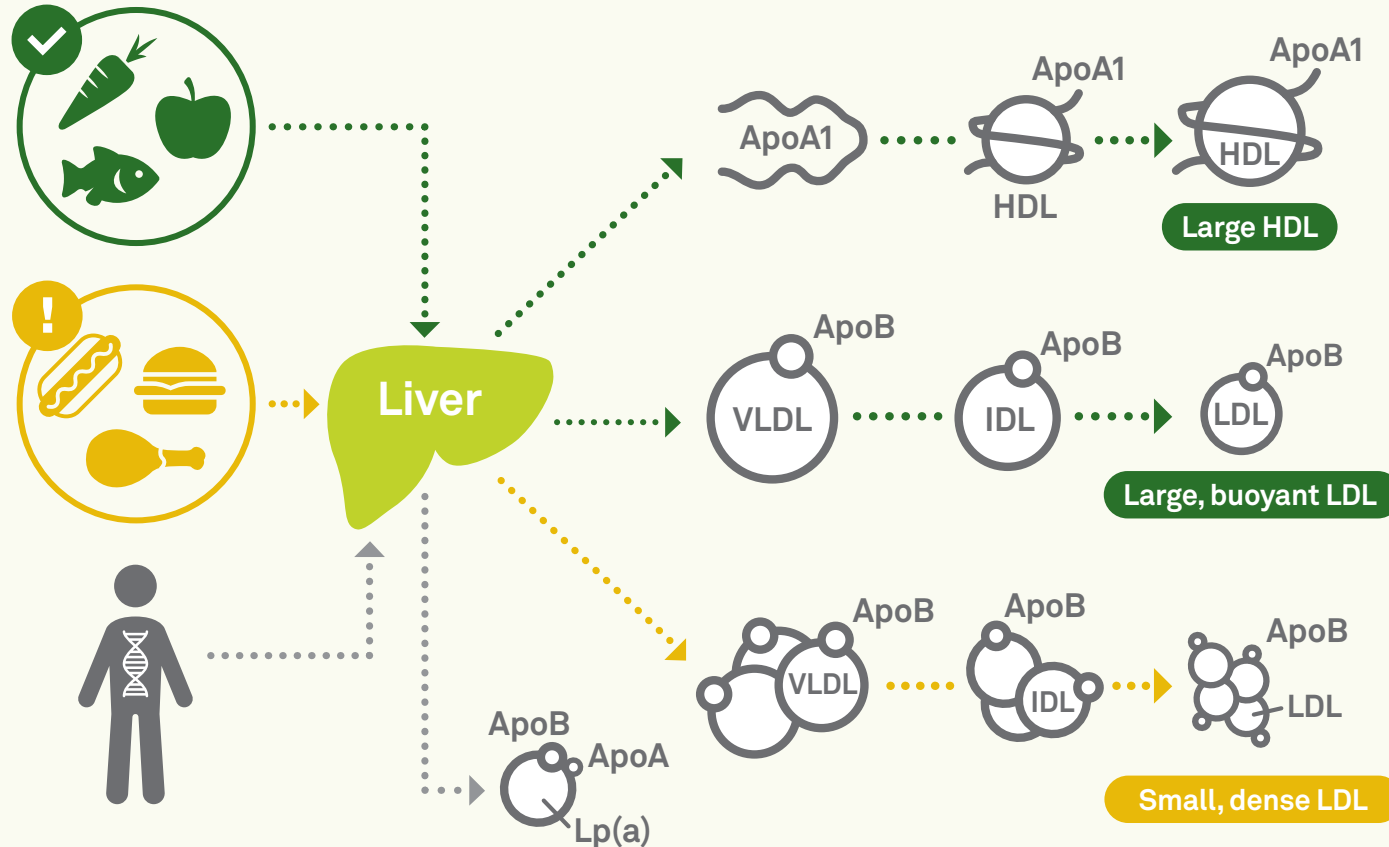
## Identifying residual risk: advanced lipid testing

While standard lipid screening plays an important role in risk assessment, it may not always be predictive of adverse events. Cardiovascular risk assessment has expanded beyond lipid values to include lipoprotein and apolipoprotein risk factors, often referred to as advanced lipid testing.

### Lipoprotein risk factors

• LDL particle number • LDL subclasses • HDL (high-density lipoprotein) subclasses • Apolipoprotein B (ApoB) • Lipoprotein(a) [Lp(a)]

### Lipoprotein risk factors



ApoA=apolipoprotein A; ApoA1=apolipoprotein A1; ApoB=apolipoprotein B; VLDL=very low-density lipoprotein; Lp(a)=lipoprotein(a); LDL=low-density lipoprotein; HDL=high-density lipoprotein; IDL=intermediate-density lipoprotein

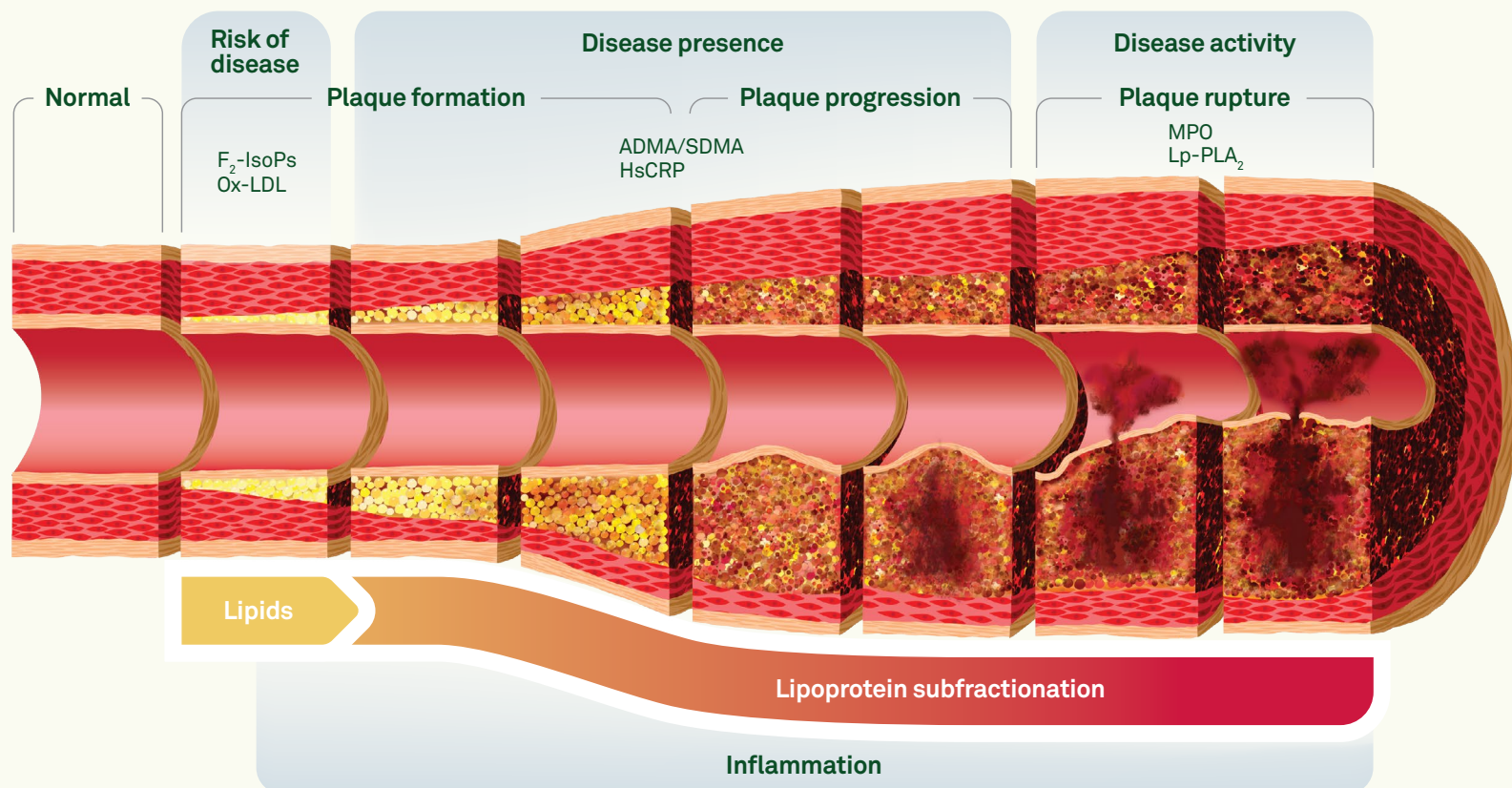
## Uncovering hidden risk: advanced inflammatory marker testing

In addition to lipoprotein risk factors, inflammatory markers of risk can be measured with advanced testing to offer deeper insight into a patient's risk for cardiovascular disease progression and true adverse events. Inflammatory marker testing covers a patient's biomarker profile, indicating low, moderate, and high risk.

### Inflammatory markers

- Myeloperoxidase (MPO)
- Lp-PLA<sub>2</sub> (lipoprotein-associated phospholipase A<sub>2</sub>)
- High-sensitivity C-reactive protein (hs-CRP)
- Asymmetric dimethylarginine (ADMA)/symmetric dimethylarginine (SDMA)
- Oxidized LDL (OxLDL)
- F<sub>2</sub>-Isoprostanes (F<sub>2</sub>-IsoPs)
- Fibrinogen

### Inflammatory markers may help clarify: risk of disease, disease presence, and disease activity







## A lab that's committed to helping physicians identify cardiovascular risk

Quest Diagnostics is dedicated to helping physicians deliver the best care to patients at risk for cardiovascular disease, offering advanced inflammatory and lipoprotein biomarker testing.



Interested in learning more? Visit **[QuestDiagnostics.com/CardioIQTesting](https://QuestDiagnostics.com/CardioIQTesting)**.

### References

1. Furie MB, Mitchell RN. Plaque attack: one hundred years of atherosclerosis in the American Journal of Pathology. *Am J Pathol*. Jun;180(6):2184-2187. doi:10.1016/j.ajpath.2012.04.003.

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