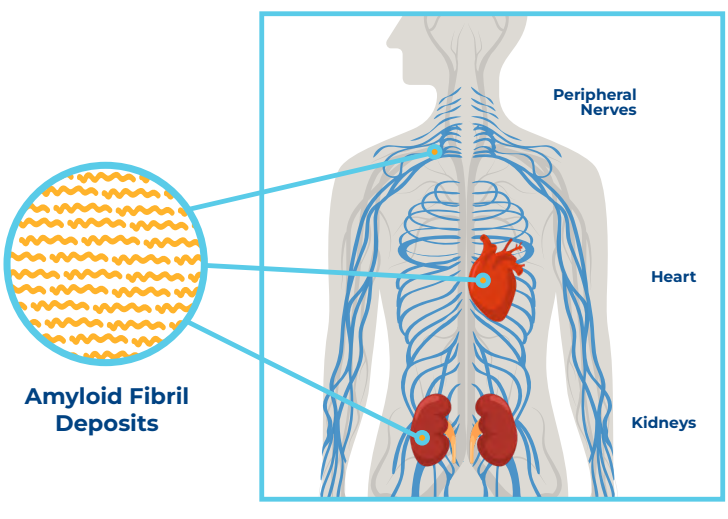
Light Chain (AL) Amyloidosis

ALEXION®
AstraZeneca Rare Disease

WHAT IS AMYLOIDOSIS?

Amyloidosis is a **group of complex rare diseases** caused by abnormal proteins that **misfold and clump together to form amyloid fibrils that are deposited** in tissues or organs, including the heart, kidney and peripheral nerves.[1-3]

This deposit buildup can result in **significant organ damage and organ failure** that can severely impact quality of life and can ultimately be fatal.[1-3]

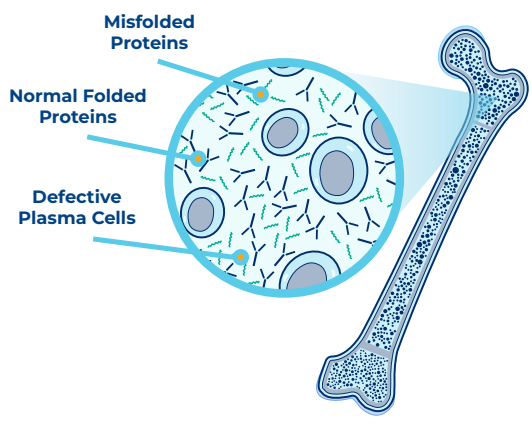


WHAT IS AL AMYLOIDOSIS?

Light chain amyloidosis, also referred to as AL amyloidosis, is a systemic and progressive type of amyloidosis. In AL amyloidosis, a type of protein called **light chains are produced abnormally by defective plasma cells in the bone marrow**. These proteins misfold and form amyloid fibril deposits.[4,5]

Accumulation of deposited amyloid fibrils, particularly in the heart and kidneys, can cause **progressive damage** and may lead to **premature death**, most commonly due to **cardiac failure or irregular heart beat** (arrhythmia).[4,5]

There are **two subtypes of AL amyloidosis:** kappa light chain amyloidosis (~20% of patients) and lambda light chain amyloidosis (~80% of patients).[6-8]



Diagnosed prevalence in adults is

~22K[9] ~20K[9] ~1.6K[9]

The median age of diagnosis is 64 years, but people can be diagnosed with AL amyloidosis as early as in their 20s.[10,11]

About 60% of people diagnosed with AL amyloidosis **are males**.[12]

More than 75% of people with AL amyloidosis **develop cardiomyopathy,** where the amyloid buildup **causes the heart to have a harder time pumping blood** to the rest of the body.[13]

Up to 70% of people with AL amyloidosis have kidney involvement, where the amyloid buildup **impairs kidney function.**[14]

People with AL amyloidosis may experience a range of signs and/or symptoms, including: [13,15,16]

- **Swollen arms and legs**
- **Extreme shortness of breath**
- **Abnormal heartbeat**
- **Nausea**
- **Diarrhoea**
- **Tingling in the extremities**
- **Carpal tunnel syndrome**
- **Enlarged tongue**
- **Bruising around eyes**

and many other **vague symptoms that mimic other diseases** that often complicate diagnosis.

HOW IS AL AMYLOIDOSIS DIAGNOSED?

While diagnosis of AL amyloidosis can be relatively straightforward, it is **often delayed due to non-specific signs and symptoms that can vary by person**. It can take **up to 3 years** to receive a correct diagnosis.[17,18]

Once suspected, blood and urine tests are conducted first, followed by a tissue biopsy to confirm the type of amyloidosis.[19,20]

Imaging of the impacted organs may determine the severity of the condition.[19]

For many people, AL amyloidosis is **not accurately diagnosed until the later stages of the disease,** when **treatment options are limited and prognosis is poor.**

Rapid, accurate diagnosis leading to initiation of treatment is essential to mitigate the impact of this disease on **survival and quality of life.**[5,20]

WHAT ARE CURRENT TREATMENT NEEDS?

There are no approved treatments that directly address the significant organ damage caused by the disease.[5,20]

Most existing amyloidosis therapies focus on preventing and/or suppressing the formation of amyloid fibril deposits. As a result, **the disease and organ damage may continue to progress** due to the existing deposits and ultimately **lead to organ failure and death.**[5,20]

Given the progressive nature of AL amyloidosis and its significant impact on quality of life, **there remains a need for increased awareness of the disease and continued innovation to improve outcomes for people living with AL amyloidosis.**[4,5,21]

Content created by Alexion, AstraZeneca Rare Disease

References

1. Mollee P, et al. How to diagnose amyloidosis. *Internal Medicine Journal.* 2014;44:7-17.
2. Comenzo RL. How I treat amyloidosis. *Blood.* 2009;114(15):3147-3157.
3. Witteles RM, et al. Screening for Transthyretin Amyloid Cardiomyopathy in Everyday Practice. *JACC: Heart Failure.* 2019;7(8):709-716.
4. Desport E, et al. AL Amyloidosis. *Orphanet J Rare Dis.* 2012;7(54).
5. Grogan M, et al. Light-chain cardiac amyloidosis: strategies to promote early diagnosis and cardiac response. *Heart.* 2017;103:1065–1072.
6. Kastritis E, et al. ANDROMEDA Trial Investigators. Daratumumab-based treatment for immunoglobulin light-chain amyloidosis. *N Engl J Med.* 2021;385(1):46-58. DOI: 10.1056/NEJMoa2028631.
7. Manwani R, Cohen O, Sharpley F, et al. A prospective observational study of 915 patients with systemic AL amyloidosis treated with upfront bortezomib. *Blood.* 2019;134(25):2271-2280. DOI: 10.1182/blood.2019000834.
8. Staron A, et al. Marked progress in AL amyloidosis survival: a 40-year longitudinal natural history study. *Blood Cancer J.* 2021;11(8):139. DOI: 10.1038/s41408-021-00529-w.
9. AstraZeneca Data on File - Epidemiology estimates are composed of a triangulation of different data sources including Data Monitor, Decision Resources Group, Kantar Health, and internal input (updated as of July 2026).
10. Baker KR. Light chain amyloidosis: epidemiology, staging, and prognostication. *Methodist Debakey Cardiovasc J.* 2022;18(2):27-35.
11. Singh A, et al. Timing and co-occurrence of symptoms prior to a diagnosis of light chain (AL) amyloidosis. *Blood Cancer J.* 2024;14(1):61.
12. Staron A, et al. Race/ethnicity in systemic AL amyloidosis: perspectives on disease and outcome disparities. *Blood Cancer Journal.* 2020;10:118.
13. Wechalekar AD, et al. AL Amyloidosis for Cardiologists; Awareness, Diagnosis, and Future Prospects. *JACC: CardioOncology.* 2022;4(4): 427- 441.
14. Anand S, et al. *Nephrol Dial Transplant.* 2024;40[1]:34-47.
15. Amyloidosis - Symptoms and causes. (2020, March 14). Mayo Clinic. Accessed at: https://www.mayoclinic.org/diseases-conditions/amyloidosis/symptoms-causes/syc-20353178. Accessed August 2026.
16. Cuddy SAM, et al. Amyloidosis as a Systemic Disease in Context. *Can J Cardiol.* 2020;36:396-407.
17. Lyons G, et al. *Open Heart.* 2025;12[1]:e003124.
18. McCausland KL, et al. *Patient.* 2018;11[2]:207-216.
19. Dittrich T, et al. Prognosis and Staging of AL Amyloidosis. *Acta Haematol.* 2020;143:388-400
20. Merlini G, et al. Systemic light chain amyloidosis: an update for treating physicians. *Blood.* 2013; 121(26):5124-5130.
21. Palladini G, et al. A staging system for renal outcome and early markers of renal response to chemotherapy in AL amyloidosis. *Blood.* 2014;124(15):2325-2332.

GL/UNB-AML/0011 V2 08/2026