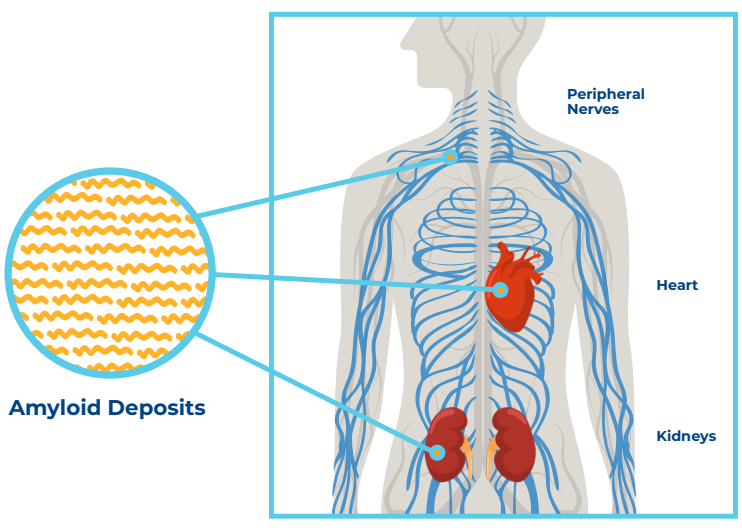
# Transthyretin Amyloidosis Cardiomyopathy (ATTR-CM)

## WHAT IS AMYLOIDOSIS?

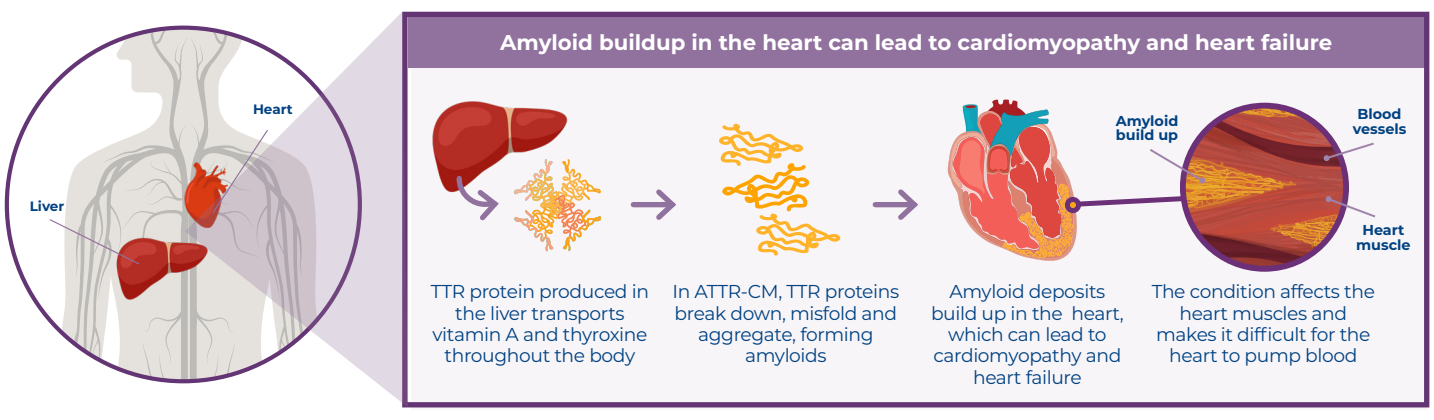
Amyloidosis is a **group of complex rare diseases** caused by abnormal proteins that **misfold and clump together to form amyloid deposits** in tissues or organs, including the heart, kidney and peripheral nerves.[1-3]

This build up 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 ATTR-CM?

ATTR-Cardiomyopathy (ATTR-CM) is a **systemic and progressive type of amyloidosis** caused by the breakdown, misfolding, aggregation and deposition of a protein called transthyretin (TTR) in the heart. TTR is a protein primarily produced in the liver that mainly serves to transport vitamin A and a thyroid hormone called thyroxine. The buildup of these misfolded proteins in the heart can lead to cardiomyopathy, a condition of the heart muscle that **makes it hard for the heart to pump blood** and can **lead to heart failure.**[3-7]




ATTR-CM can be **hereditary,** which occurs when mutations in the TTR gene are passed down from parents, or **non-hereditary** (wild-type), which does not have a known cause.[7]

The hereditary form of the disease **affects people as young as 20 years old**, while the non-hereditary form predominantly **affects people over the age of 60.**[8,9]

Worldwide, there are an estimated **300,000 - 500,000 people** living with ATTR-CM.[10,11]



**People with ATTR-CM may experience a range of signs and/or symptoms, including:**[6,12-14]

- **Fatigue**
- **Difficulty breathing (dyspnoea)**
- **Dizziness**
- **Weakness**
- **Loss of consciousness**
- **Swelling of the lower legs or ankles (oedema)**
- **Irregular heartbeat or heart rate (arrhythmia)**
- **Carpal tunnel syndrome**
- **Spinal stenosis (narrowing of the spinal canal)**

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

## HOW IS ATTR-CM DIAGNOSED?

ATTR-CM may be suspected when there are cardiac symptoms and/or there is a family history of amyloidosis. Most frequently, it is recognised when people experience cardiac symptoms of heart failure or worsening of heart failure.[15,16]

A diagnosis of ATTR-CM can be confirmed with **nuclear imaging**, **magnetic resonance imaging (MRI)** or a **heart biopsy.**[15,16]

It is important to confirm the type of amyloidosis, which can be done through a specialised blood test.[17]

The hereditary form of the disease can be confirmed through a **genetic test.**[17]

The journey to diagnosis can be long, with the disease sometimes initially misdiagnosed due to non-specific signs and symptoms that are common with heart failure. **Initial diagnosis of ATTR-CM can be complex** and may involve visits to several types of healthcare specialists, delaying diagnosis and treatment.[3,12,14]

On average, **diagnosis of ATTR-CM can take 6-8 years.** People often progress to a moderate or severe stage of the disease by the time an accurate diagnosis is received.[14,18,19]

**6-8 YEARS**

## WHAT ARE CURRENT TREATMENT NEEDS?

There are no approved treatments that are designed to directly remove ATTR-amyloid deposits from the heart and other tissues and organs.[20]

Current treatment approaches include therapies that prevent or suppress the formation of amyloid deposits as well as manage symptoms. However, **organ damage may continue to progress** due to the existing amyloid deposits and ultimately **lead to organ failure and death.** In some cases, liver or heart transplant is performed.[6,15,21]

Given the progressive nature of ATTR-CM 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 ATTR-CM.**[3]

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. Chako L, et al. Cardiac Amyloidosis: Updated in Imaging. *Curr Cardiol Rep*. 2019; 21:108.
5. Baker KR, et al. The Amyloidoses: Clinical Feaures, Diagnosis and Treatment. *Methodist Debakey Cardiovasc J*. 2012;8:3-7.
6. Cuddy SAM, et al. Amyloidosis as a Systemic Disease in Context. *Can J Cardiol*. 2020;36:396-407.
7. Hanna M, et al. Tafamidis and quality of life in people with transthyrretin amyloid cardiomyopathy in the study ATTR-ACT: A plain language summary. *Future Cardiol*. 2022;18(3): 165-172.
8. Conceição I, et al. Assessment of patients with hereditary transthyretin amyloidosis - understanding the impact of management and disease progression. *Amyloid*. 2019;26(3):103-111
9. Nativi-Nicolau JN, et al. Natural history and progression of Transthyretin amyloid cardiomyopathy: insights from ATTR-ACT. *ESC Heart Failure*. 2021;8:3875-3884.
10. Mohamed-Salem L, et al. Prevalence of wild type ATTR assessed as myocardial uptake in bone scan in the elderly population. *Int J Cardiol*. 2018;270:192-196.
11. Cuscaden C, et al. Estimation of prevalence of transthyretin (ATTR) cardiac amyloidosis in an Australian subpopulation using bone scans with echocardiography and clinical correlation. *J Nucl Cardiol*. 2021;28(6):2845-2856.
12. Yamamato H, et al. Transthyretin cardiac amyloidosis: an update on diagnosis and treatment. *ESC Heart Fail*. 2019;6:1128-1139.
13. Muchtar E, et al. Systemic amyloidosis from A (AA) to T (ATTR): a review. *J Intern Med*. 2021;289:268-292.
14. Nativi-Nicolau JN, et al. Screening for ATTR amyloidosis in the clinic: overlapping disorders, misdiagnosis, and multiorgan awareness. *Heart Failure Reviews*. 2022;27:785-793.
15. Emdin M, et al. Treatment of cardiac transthyretin amyloidosis: an update. *European Heart Journal*. 2019;40:3699-3706.
16. Maurer MS, et al. Expert Consensus Recommendations for the Suspicion and Diagnosis of Transtheyretin Cardiac Amyloidosis. *Circ Heart Fail*. 2019;12.
17. Ando Y, et al. Guideline of Transthyretin-related hereditary amyloidosis for clinicians. *Orphanet J Rare Dis*. 2013;8:31.
18. Hawkins PN et al. *Ann Med*. 2015;47(8):625-638.
19. Rozenbaum MH et al. *Cardiol Ther*. 2021;10:141-159.
20. Ruberg FL, et al. Transthyretin Amyloid Cardiomyopathy: JACC State-of-the-ART Review. *J Am Coll Cardiol*. 2019;73(22):2872-2891.
21. Rozenbaum MH, et al. Health impact of tafamidis in Transthyretin amyloid cardiomyopathy patients: an analysis from the Tafamidis in Transthyretin Cardiomyopathy Clinical Trial (ATTR-ACT) and the open-label long-term extension studies. *European Heart Journal*. 2022;8:529-538.


ALEXION and the Alexion logo are registered trademarks of Alexion Pharmaceuticals, Inc. Copyright © 2026, Alexion Pharmaceuticals, Inc. All rights reserved.

Veeva ID: Z4-89521 Date of preperation: October 2026