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Understanding Amyloidosis: A Guide to Your AL Diagnosis

Helping you understand what this diagnosis means

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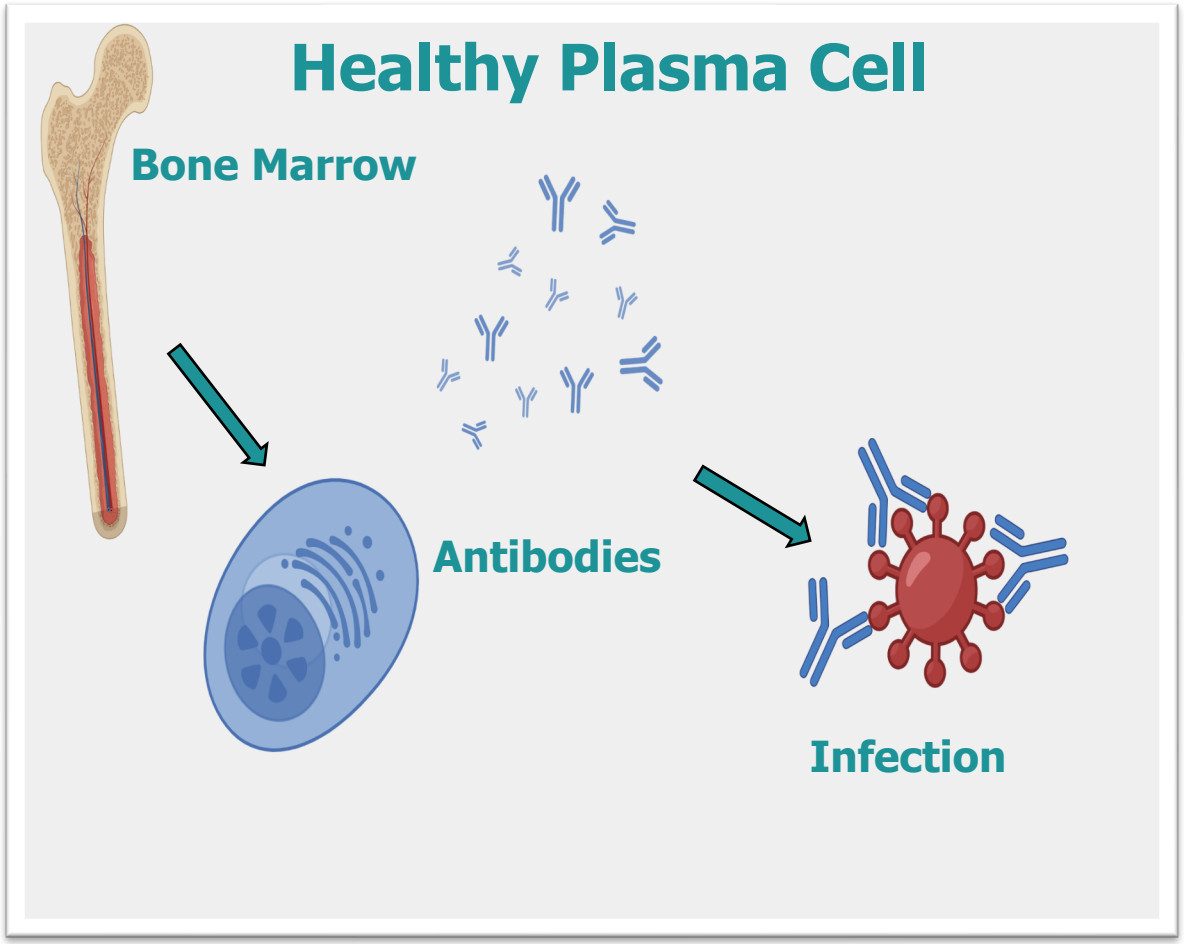
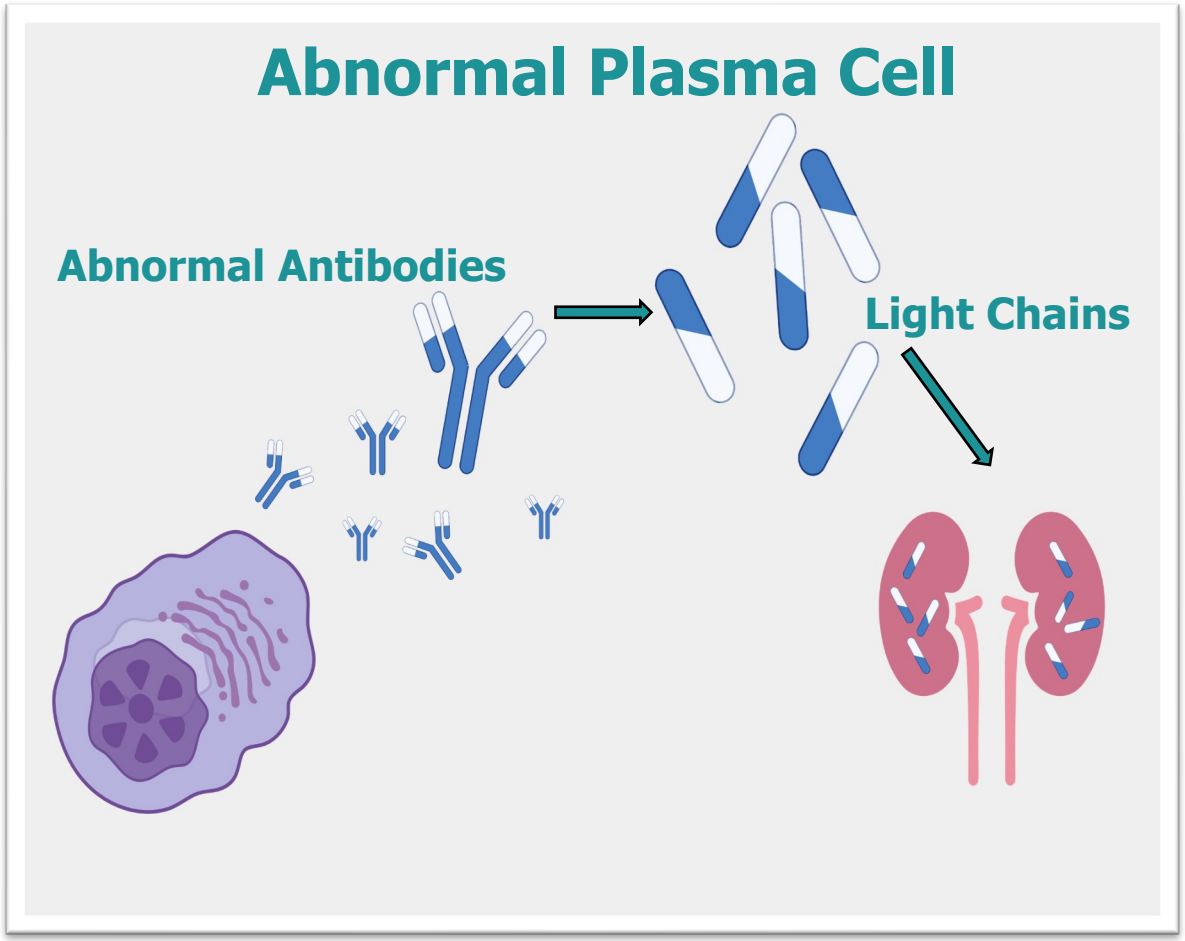
Light Chain Amyloidosis = AL Amyloidosis





Good Proteins

Bad Proteins

📌 5 Steps to AL Diagnosis

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CLINICAL SUSPICION

LAB SCREENING

BIOPSY

STAGING

TREATMENT

Step 1: Clinical Suspicion

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Cardiac symptoms

unexplained heart failure with thickened walls, arrhythmias, low voltage on ECG

Renal symptoms

nephrotic syndrome, proteinuria > 0.5g/day, progressive kidney dysfunction

Neuropathy

autonomic dysfunction, syndrome, tingling in hands/feet

Soft Tissue Signs

macroglossia, periorbital purpura, shoulder pad sign

Gastrointestinal Issues

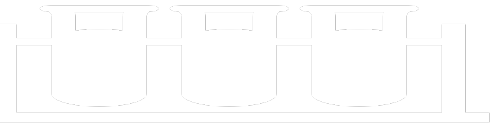
diarrhea, malabsorption, weight loss

Step 2: Initial Lab Screening

Blood & Urine Tests:

- Serum Free Light Chains (sFLC) ratio
- Serum Protein Electrophoresis (SPEP) + Immunofixation (IFE)
- Urine Protein Electrophoresis (UPEP) + IFE

📌 Step 2: Initial Lab Screening

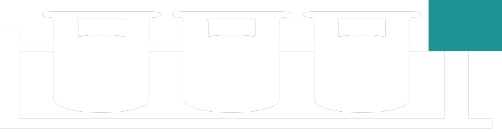


🔴 **AL Amyloidosis is suspected if:**

✅ **Abnormal sFLC ratio** (elevated lambda or kappa light chains).

✅ Presence **of monoclonal protein (M-protein) in SPEP/UPEP/IFE**.

📌 Step 2: Initial Lab Screening



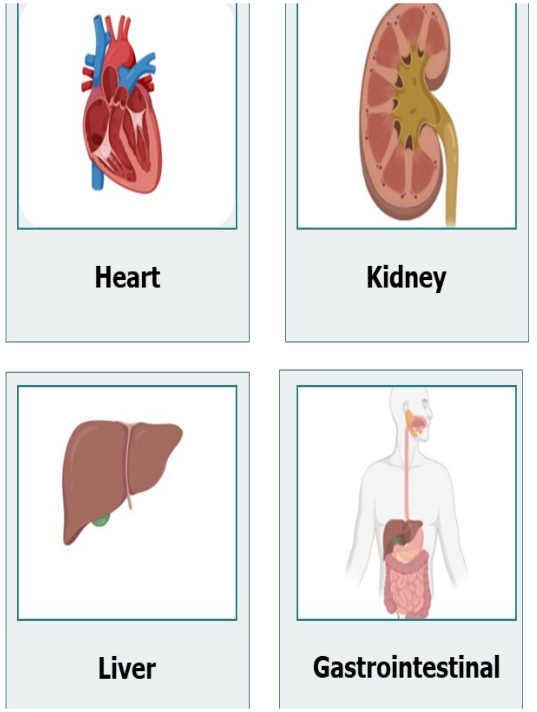
✔ If **positive**, proceed to **Step 3: Biopsy Confirmation**.

If **negative**, consider other forms of amyloidosis (e.g., ATTR, AA).

Step 3:Biopsy

Abdominal Fat Pad Aspiration

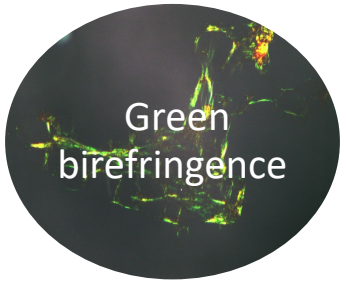
Bone Marrow Biopsy



Organ-Specific Biopsy

Step 3: Biopsy

Polarized Microscopy



Amyloid Confirmed

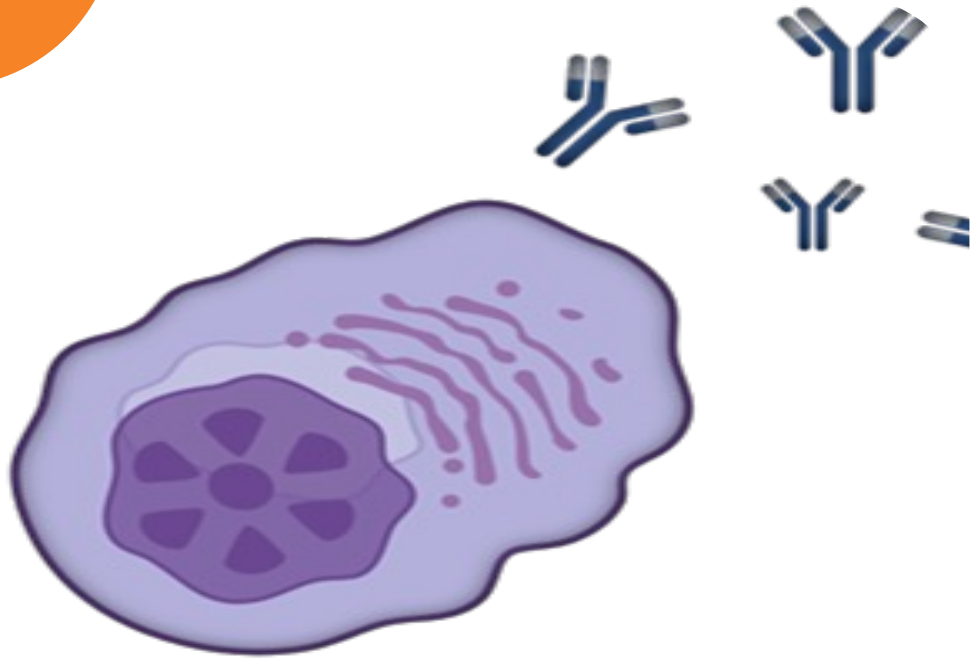
Mass Spectrometry
or
Immunohistochemistry

📌 Step 3: Biopsy

If AL amyloid confirmed, proceed to **Step 4: Staging & Organ Involvement.**

If amyloid negative, re-evaluate for other conditions.

Step 4: Hematologic Staging



Plasma Cell Evaluation

- Clonal Plasma Cell Population
  - Find the Light Chain Producing Cells

Bone Marrow Biopsy & Aspirate

- Flow Cytometry
- Cytogenetics
- FISH

Step 4:Cardiac Organ Staging

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Heart = Cardiologist

EKG (Electro cardiogram)

NT-proBNP, BNP & Troponin T/I –

- Measures heart strain and damage.

Echocardiogram –

- Assesses heart wall thickening and function.

Cardiac MRI –

- Detects amyloid infiltration in heart tissue.

📌 Step 4: Staging Other Organs

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Kidney = Nephrologist	Liver: = Gastroenterologist	Neuropathy = Neurologist
24-Hour Urine Protein Test –	Evaluates hepatic involvement.	Autonomic & Peripheral Nerve Tests –
Checks for protein leakage.		Identifies nerve damage.

📌 Step 5: Treatment

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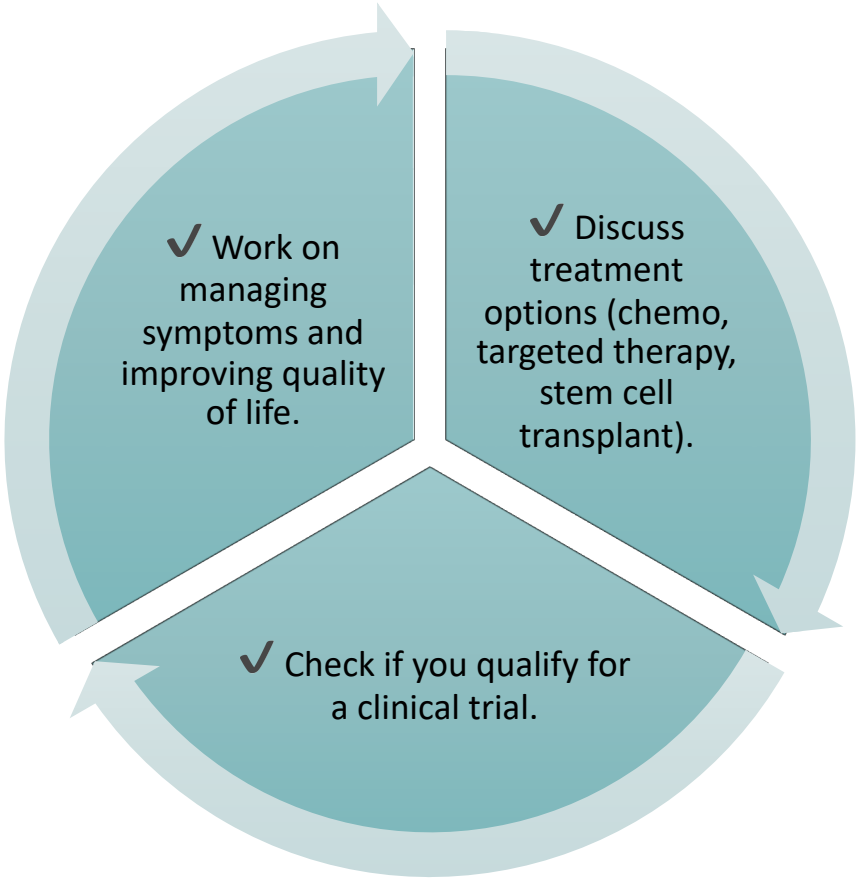
Once you have a diagnosis, your doctor will:



Wrap-Up: Key Takeaways

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📌 AL Amyloidosis = Bad Proteins

- Abnormal plasma cells produce misfolded light chains that form amyloid deposits.
- These deposits damage organs over time.

📌 Diagnosis Requires Multiple Steps

- Blood & Urine Tests → Check for abnormal proteins.
- Biopsy → Confirms amyloid deposits.
- Organ Staging → Determines how much damage has occurred.

📌 Early Treatment is Key

- Stop the bad proteins → Chemotherapy, targeted therapy, or stem cell transplant.
- Protect organs → Manage symptoms and support affected organs.
- Improve quality of life → Treat symptoms and stay informed.