

# Multiple Myeloma

## Patient Seminar

### International Myeloma Foundation

September 6, 2008

Robert A. Kyle, M.D.



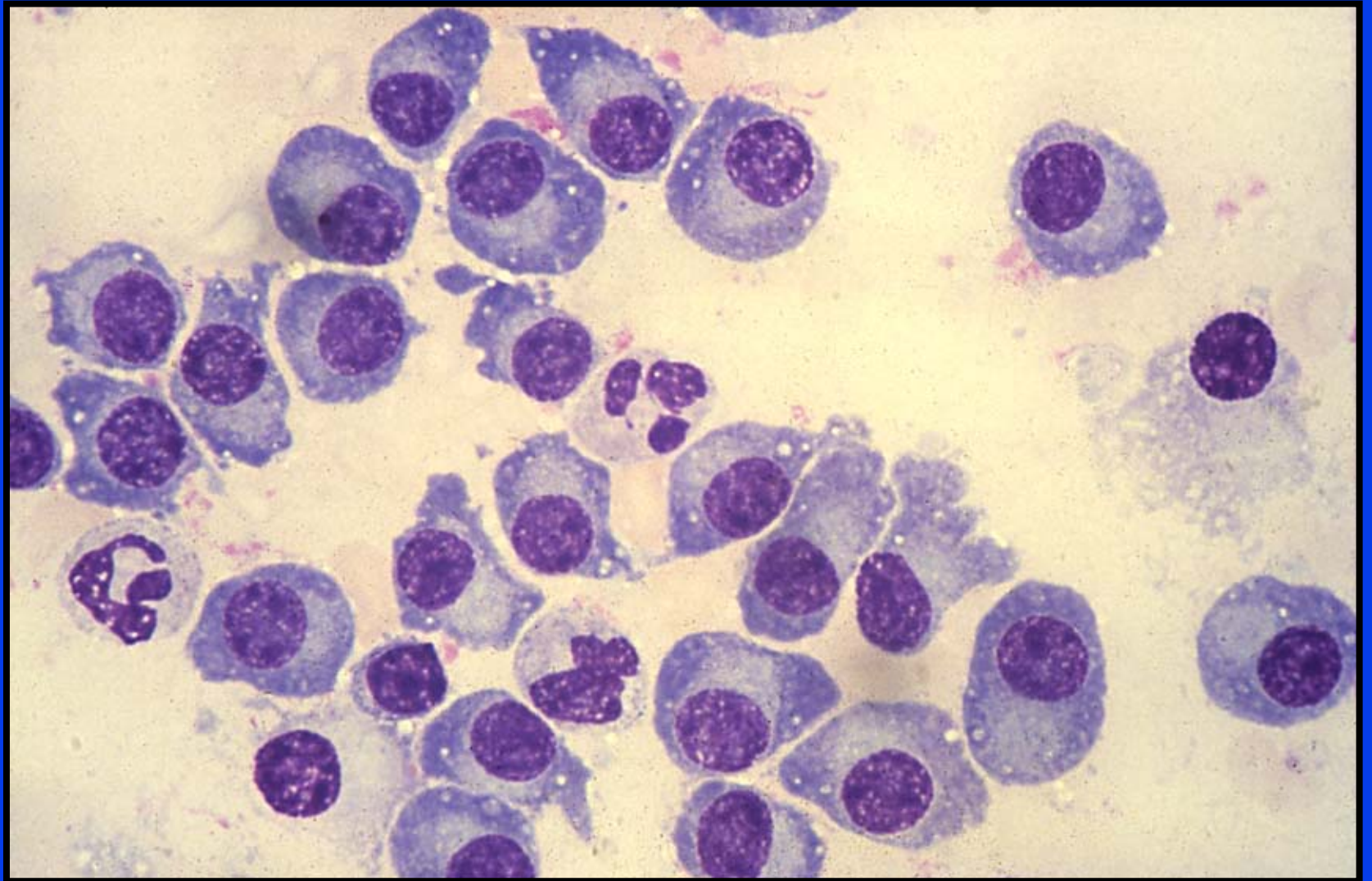
Scottsdale, Arizona



Rochester, Minnesota



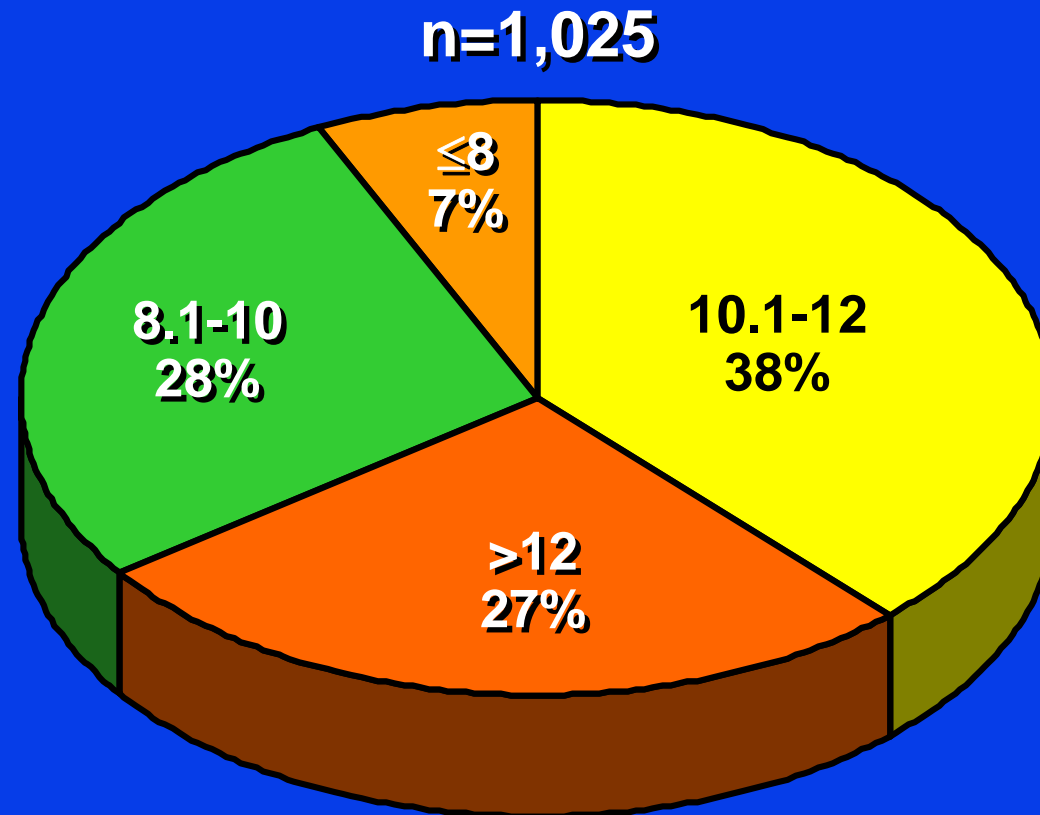
Jacksonville, Florida



# Multiple Myeloma Epidemiology

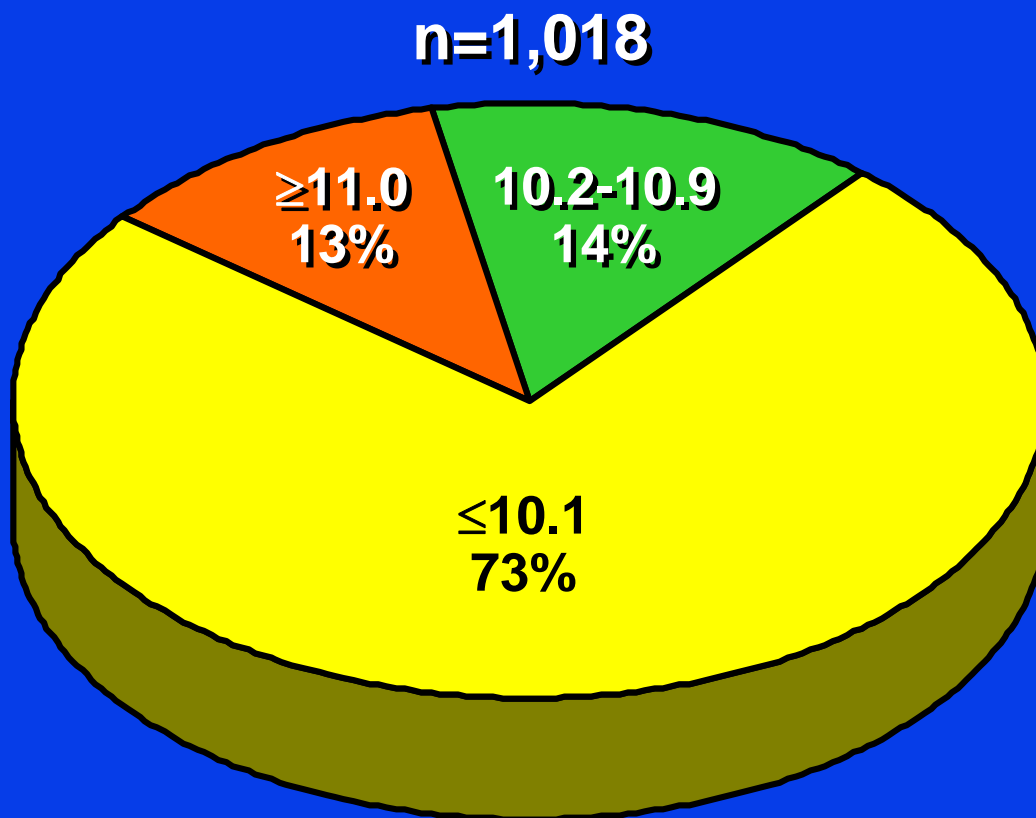
- **1% of all malignancies**
- **10% of hematologic malignancies**
- **Incidence**
  - 4/100,000 in Caucasians**
  - 8/100,000 in African-Americans**

# Multiple Myeloma Mayo Clinic 1985-1998 Hemoglobin at Diagnosis (g/dL)



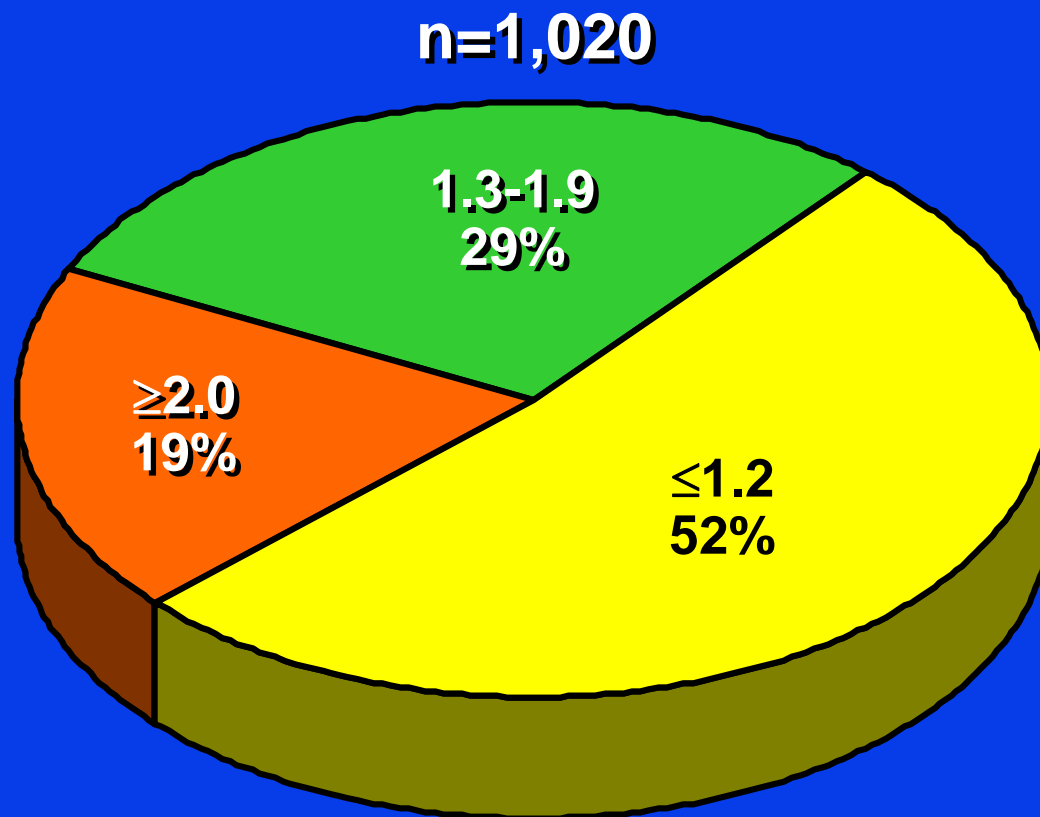
**Median 10.9**  
**Range 2.7-17**

# Multiple Myeloma Mayo Clinic 1985-1998 Serum Calcium at Diagnosis (mg/dL)



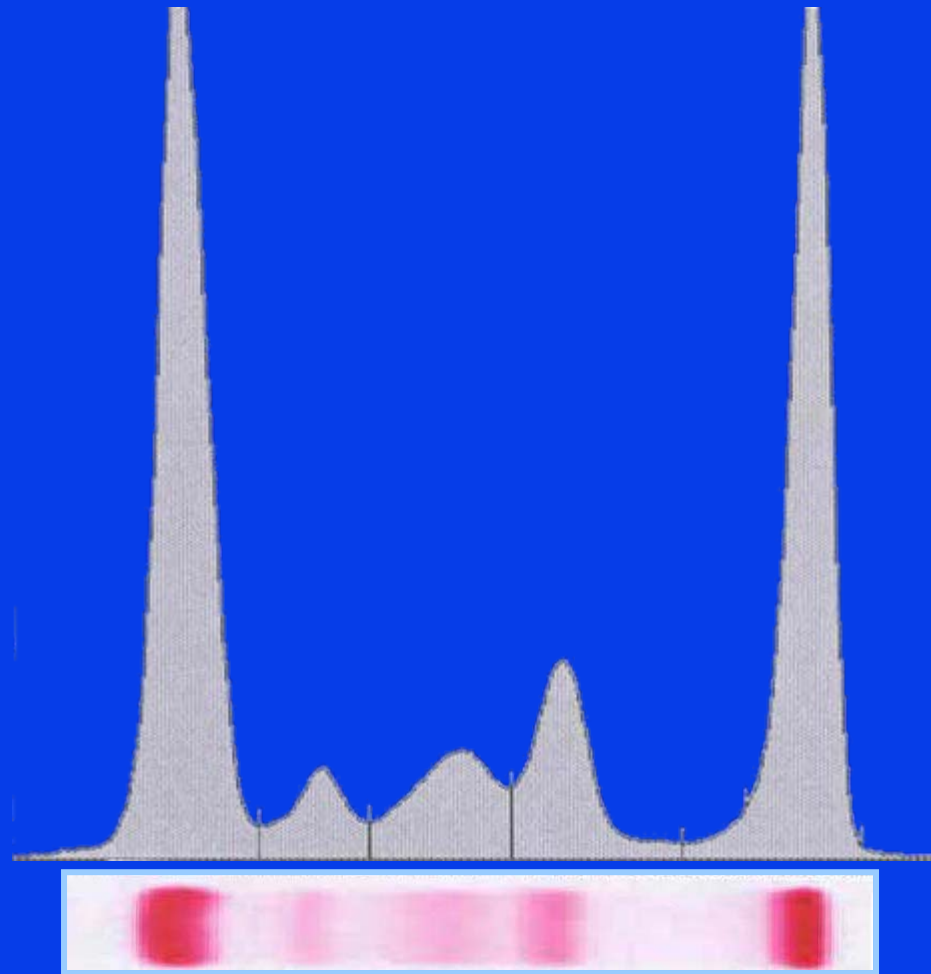
**Median 9.6**  
**Range 7.2-17.2**

# Multiple Myeloma Mayo Clinic 1985-1998 Serum Creatinine at Diagnosis (mg/dL)



**Median 1.2**  
**Range 0.5-18.2**

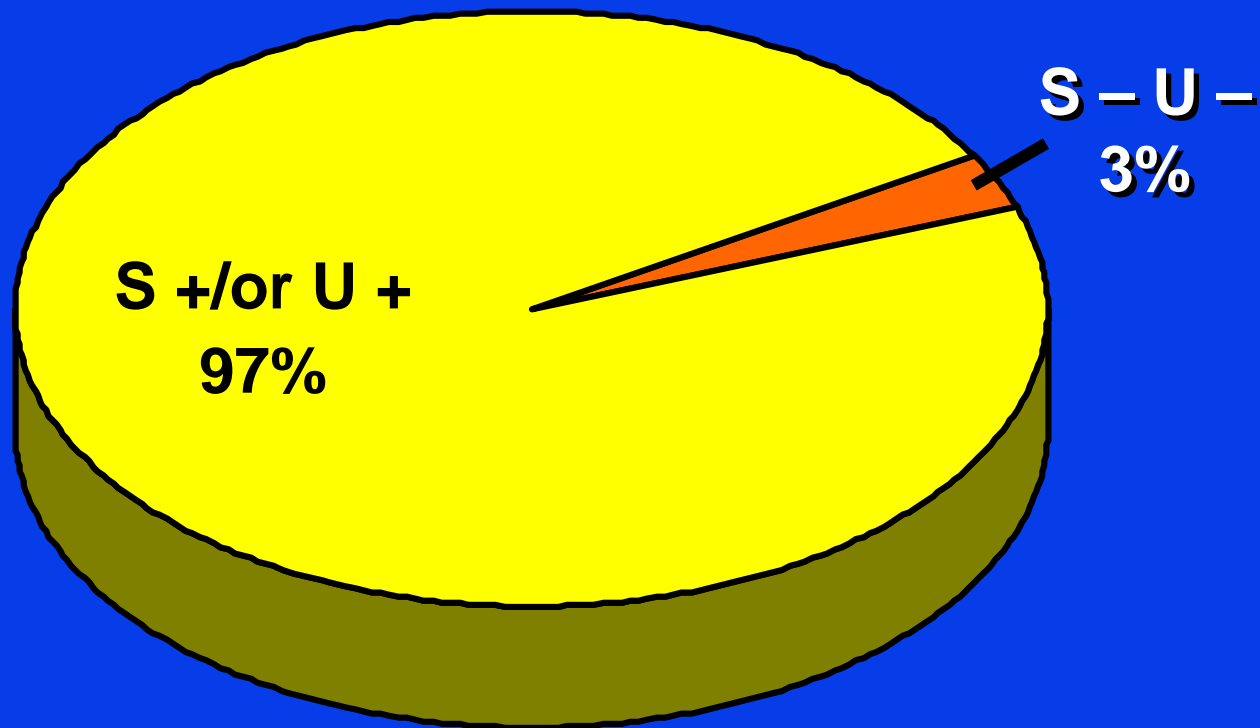
# Serum Protein Electrophoresis



Alb  $\alpha 1$   $\alpha 2$   $\beta$   $\gamma$

# Multiple Myeloma Mayo Clinic 1985-1998 Serum + Urine at Diagnosis

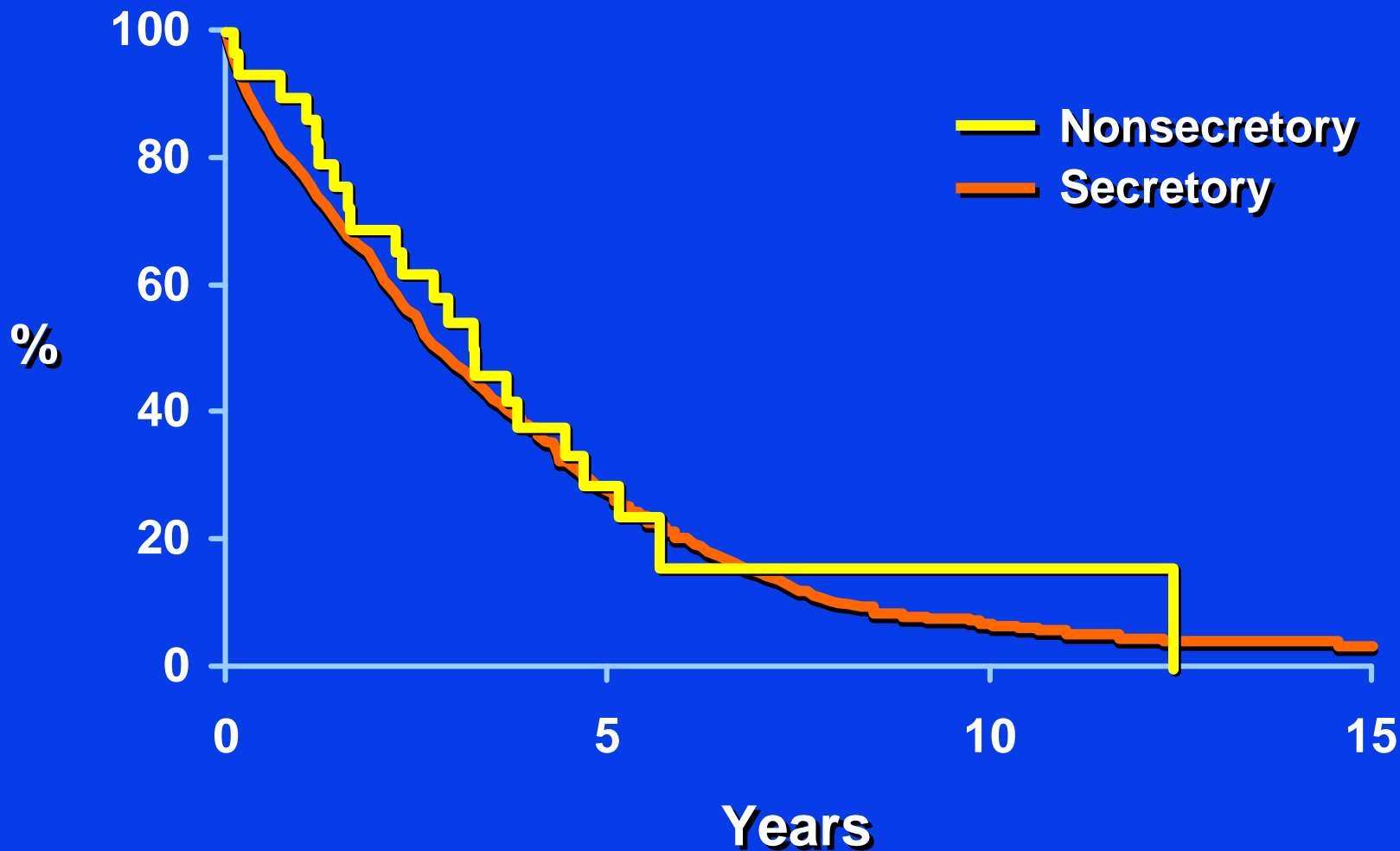
n=1,027





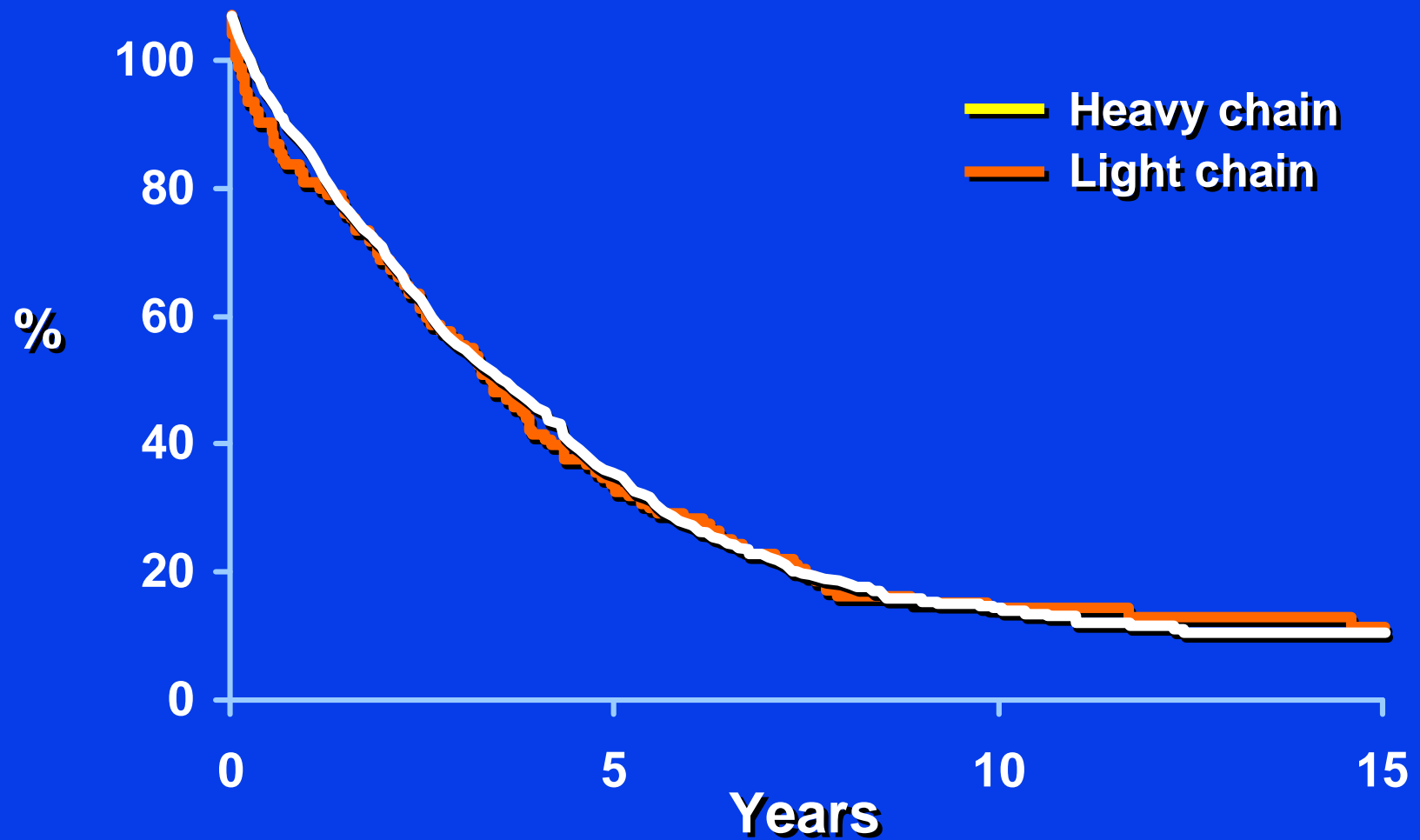
# Nonsecretory Myeloma 1985-1998

## Survival



# Light-Chain Myeloma 1985-1998

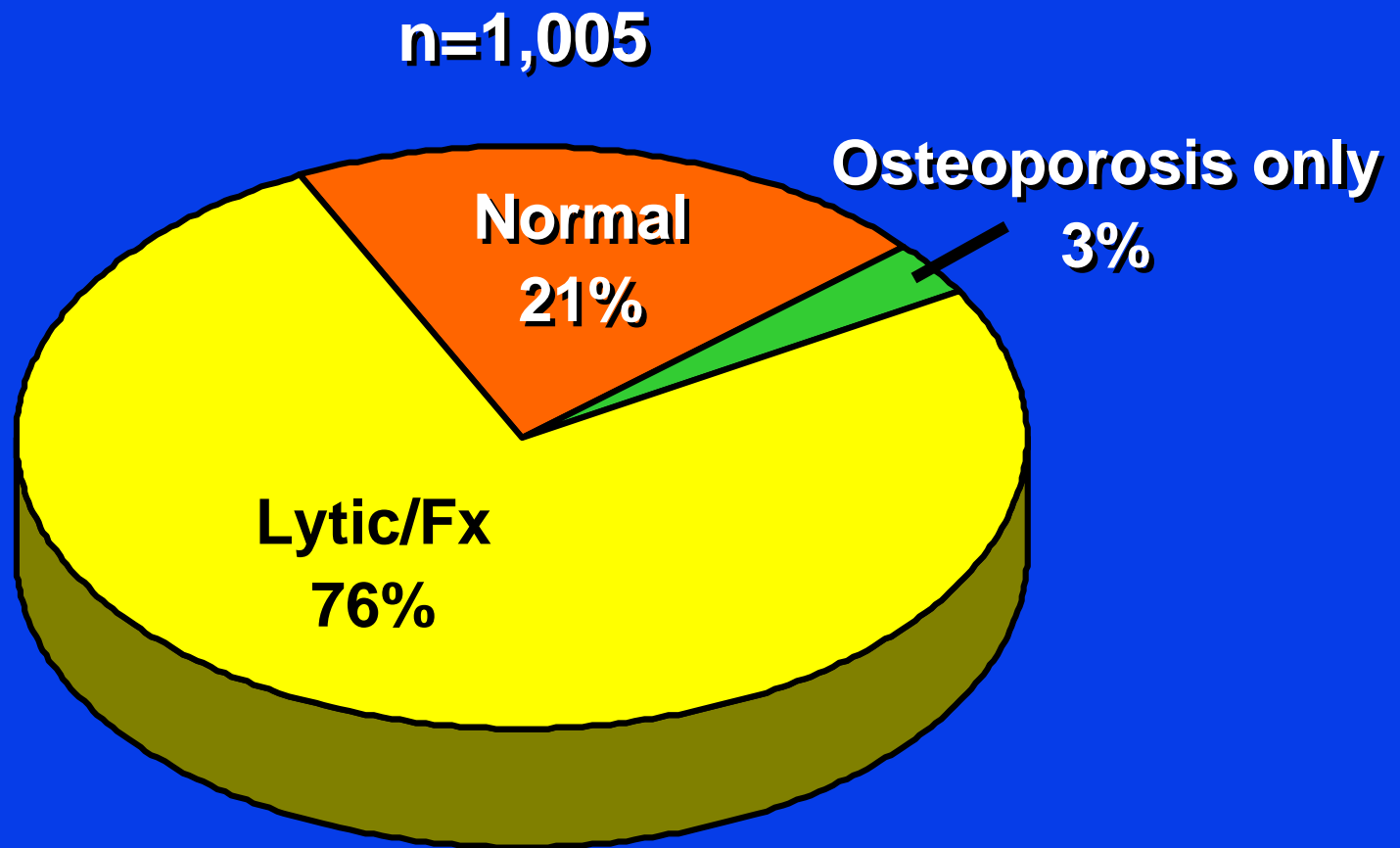
## Survival



# Multiple Myeloma Complications – Skeletal



# Multiple Myeloma Mayo Clinic 1985-1998 Skeletal Survey at Diagnosis



# **Multiple Myeloma**

## **Minimal Criteria for Diagnosis**

**Bone marrow with  $>10\%$  plasma cells or plasmacytoma + 1 of the following**

- M-protein in serum ( $>3.0$  g/dL)**
- M-protein in urine**
- Lytic bone lesions**

**Exclude connective tissue diseases, chronic infection, carcinoma, lymphoma**

# Smoldering Multiple Myeloma (SMM)

<b>M-protein in serum</b>	<b>&gt;3 g/dL</b>
<b>Plasma cells in marrow</b>	<b>&gt;10%</b>
<b>Anemia</b>	<b>None</b>
<b>Calcium</b>	<b>Normal</b>
<b>Creatinine</b>	<b>Normal</b>
<b>Lytic lesions</b>	<b>None</b>
<b>Plasma cell labeling index</b>	<b>Low</b>

# Multiple Myeloma

## Indications for Therapy

↑ M-protein in serum

↑ M-protein in urine

↓ hemoglobin

↑ calcium or creatinine

Lytic bone lesions

Extramedullary plasmacytoma

# Epitaph

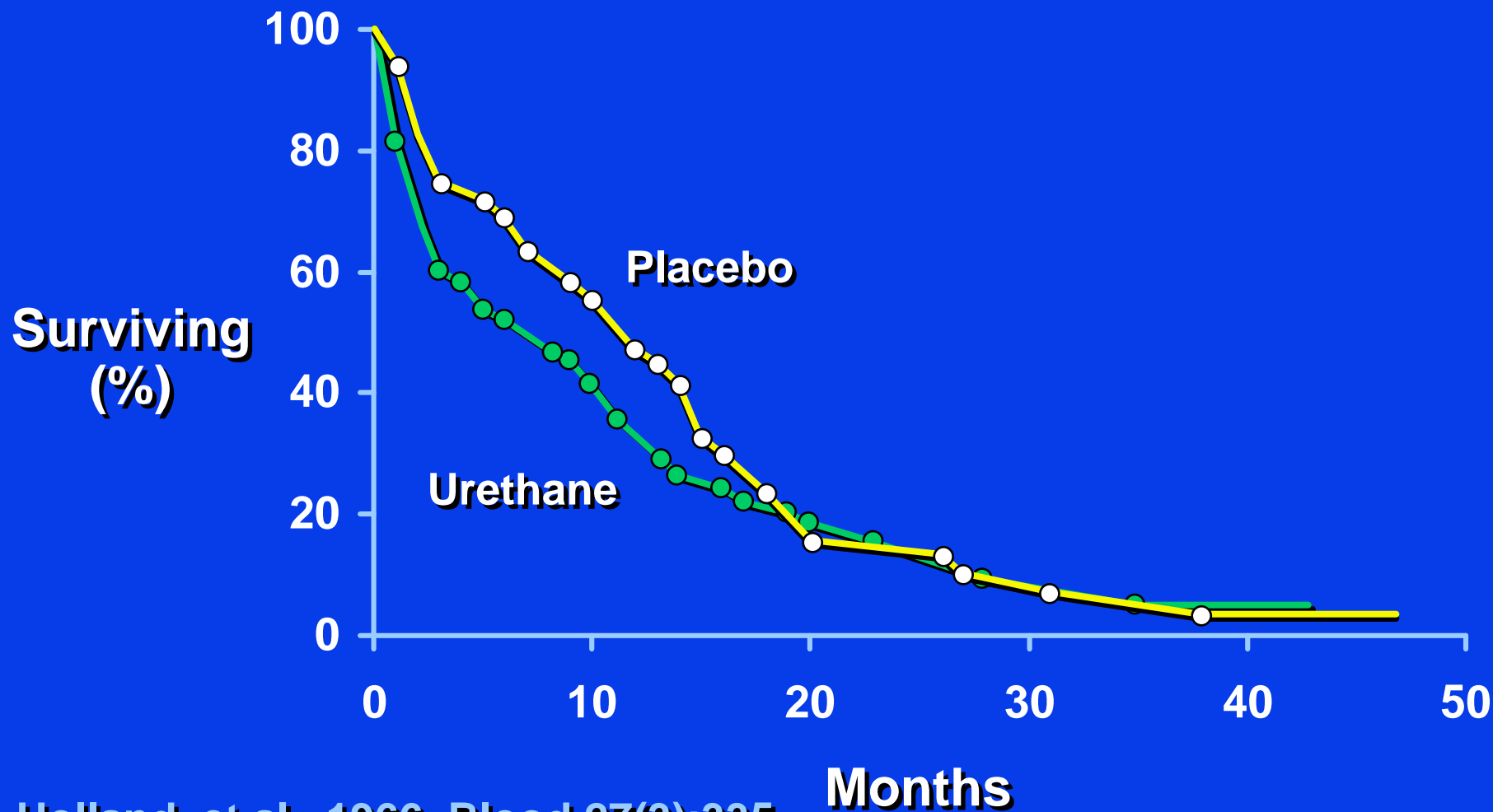
**I felt well, but wanted to feel  
better – therefore, I am here**

**J. Waldenström**





# Survival from Onset of Treatment of Multiple Myeloma



Holland, et al., 1966, Blood 27(3):335

# Multiple Myeloma Therapy of Hypercalcemia

- Hydration
- Prednisone
- Diuretics
- Bisphosphonates

# Multiple Myeloma Spinal Cord Compression

- Back pain and leg weakness
- Incontinence
- Paraspinal mass
- MRI
- Radiation therapy
- Surgical decompression

# Multiple Myeloma Infections

- **Pneumococcal vaccine**
- **Influenza vaccine**
- **Antibiotics – first 2 months**
- **Gamma globulin, IV**

