Causes of Myeloma

➢ Underlying tendency
  ➢ Can be in families (5 – 7%)

➢ Multiple possible trigger factors

➢ DNA damage from toxic exposures
Underlying Tendencies

- Immune defect
  - Abnormal immune response
  - Overreaction of immune system

- Unable to break down toxic chemicals

- Unable to repair DNA damage
Increase number and growth of plasma cells which could be or become damaged

- Inflammation
- Infection
- Obesity
- Implant surgery
  - Metal pins/hip/knee
  - Breast silicone
  - Dental
- Trauma: accidents/tissue injury
Causes of DNA Damage

Toxic chemicals
- Benzene; solvents
- Farm chemicals
- Fire retardants
- Agent Orange/Vietnam
- Processed food/drink chemicals

Radiation
- Atomic
- Diagnostic/therapy

Other
- Severe tissue damage: lightning strike
Exposure Situations

**Jobs**
- Industry: benzene/solvents/etc
- Farming: spray chemicals
- Fireman: fire retardants/flammable chemicals
- Military operations

**Social Activities**
- Schools: weed/building sprays
- Parks/golf courses

**Home**
- Pest spraying
- Personal use chemicals
- Electronics

**Food**
- GMO products
- Processed foods/drinks
Prevention Strategies

• Screening for MGUS
• Lifestyle changes
• Healthy diet
• Exposure precautions/treatment