INTRODUCTION
The elusive nature of the etiology of Multiple Myeloma (MM) has impelled many to pursue the answers to its multitude of questions. Previous studies have examined the possible link between environmental factors such as ionizing radiation exposure, agricultural exposures and workplace exposures (i.e. benzene, metals, rubber, wood, paint, etc...) and the risk of MM. While associations have been purposed there are no definite relationships. To further complicate matters the frequent occurrence of MM within families and the discovery of chromosomal alterations specific to MM give evidence of genetic factors as well. Cytogenetic studies are difficult and time consuming due to the inherit nature of MM. Information is limited due to low proliferation of malignant cells and abnormal karyotypes are found in only 30-50% of cases and are most commonly found in patients with advanced stage disease. This makes following disease progression very difficult. Abnormality rates have increased among newly diagnosed patients with stage disease. Abnormality rates have increased among newly diagnosed patients with advanced stage disease. This makes following disease progression very difficult. Abnormality rates have increased among newly diagnosed patients with stage disease.

RESULTS
- **Family #1**
  - Initial Study Normal; Final Study: 54.XY,+3,+5,+6,+7,+9,+9,+11,+15,+17,+21
  - DA: Initial Study Normal; Final Study: 54.XY,+add(1)(p13),+del(3)(q23p29),+add(7)(p22),add(8)(p23),+9,del(10)(q11.2q22.3),-13,-15,-16,+18,add(20)(p13),+mar1,+mar2,+mar3
- **Family #2**
  - WB: Initial Study Normal; Final Study: 45.X,-Y,+6,der(6)(6;8)(q14;q11.2)x2,-8,der(9)(1;?;9)(q34.3),del(12)(p11.2p13.3),-13,del(14)(q22q32.1),add(17)(p13),+18
- **Family #3**
  - Initial JD specimen yielded tetrasomy 9p and 9 cent., and trisomy 11 not identified by cytogenetic analysis
  - When possible perform extended FISH studies to find possible similarities between sibs

CONCLUSIONS
- New techniques needed for isolating plasma cells during culturing.
- More comprehensive FISH studies needed to identify early disease state abnormalities.
- These results suggest karyotypic changes are associated with late stage disease.
- Possible genetic component not evident in early stage disease.
- More studies are needed to investigate familial links in MM.