

#### Metal Sensitivity and Joint Replacement





# Introduction

Welcome to the AAHKS patient education video series!

- This video will cover **Metal Allergy / Hypersensitivity**:
  - What is it? Diagnosis

• Signs & Symptoms • Management





#### **Implants Contain Metal**



# Cobalt Aluminum Nickel Niobium Molybdenum

#### Chromium

#### Titanium

#### Zirconium

#### Vanadium

#### Tantalum



https://aaos.org/hipreplacementmodel

https://healthcare.utah.edu/orthopaedics/

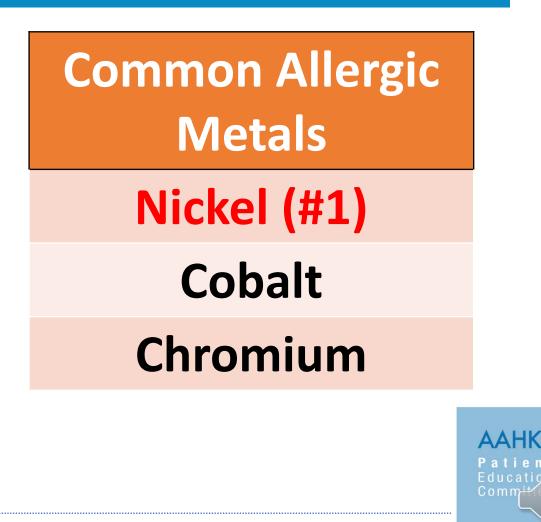
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## **Metal Allergy**

- 10-15% of the Population
- Delayed-Type Reaction
  - First Exposure
  - Second Reaction





# Signs & Symptoms

- Skin Reaction
  - Rash
  - Itching
- Associated with
  - Jewelry
  - Clothing
  - Eyeglasses
  - Occupation











# **Testing for Metal Allergy**

- Skin Patch Testing
  - Positive Test **DOES NOT MEAN** Problems with Joint Replacement
  - Unreliable Results in Orthopaedics
- Blood Tests are available
  - No Accepted and Reliable Test
- More Research is Needed





## Metal Ions & Joint Implants

- Poorly Functioning Implants release Metal Ions
  - "Metal on Metal" hips
  - Worn Plastic Liner



- Metal ions MAY EXCLTE the immune system  $\rightarrow$  Problems
- Metal Ion Levels can be ELEVATED in patients with wellfunctioning implants



# **Allergic Symptoms**

- Swelling
- Stiffness
- Pain at rest
- Skin Rash
- Itching

#### \*\*\*INFECTION MUST BE RULED OUT\*\*\*



## **Before Surgery**

#### Severe Rash & Itching to Metal Jewelry

• Specialized implants are available





https://www.aesculapimplantsystems.com/en

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# **After Surgery**

- Rule Out Infection
- Rash or Itching
  Topical/Oral Steroids
- Continued SEVERE Rash & Pain
  - Exhausted non-operative treatments
  - Revision Joint Replacement Surgery with special implants
    - Unpredictable Outcomes





#### Summary

- Allergic reaction to metal implants is VERY RARE
- Routine testing is NOT recommended
- Diagnosis can be Difficult
- Inform your surgeon if you have **SEVERE** metal sensitivity
- Research is ongoing





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