Circumcision
A Review of AAP Task Force Recommendations from August of 2012

Objectives
• Review AAP recommendations on circumcision
  o Changes since 1999 policy statement and 2005 update
• Be able to discuss benefits and risks
  o HIV and Sexually transmitted infections
  o Urinary tract infections
  o Bleeding, infection, poor cosmetic outcome
• Physicians role in counseling
  o Pre-circumcision counseling

AAP UPDATE
“Existing scientific evidence demonstrates potential medical benefits of newborn male circumcision; however, these data are not sufficient to recommend routine neonatal circumcision.” AAP March 1999

“Evaluation of current evidence indicates that the health benefits of newborn male circumcision outweigh the risks and that the procedure’s benefits justify access to this procedure for families who choose it.” AAP August 2012

Questions Addressed by AAP Task Force
• What is the current epidemiology of male circumcision in the United States?
• What are the most common procedures and techniques for newborn male circumcision?
• What best supports the parental decision-making process regarding circumcision?
• What is the association between male circumcision and both morbidity and sexual function/satisfaction?
• What is the impact of anesthesia and analgesia?
• What are the common complications and the complication rates associated with male circumcision?
• What workforce issues affect newborn male circumcision?
• What are the trends in financing and payment for elective circumcision?

Epidemiology
1999–2004 Survey:
  79% of men reported being circumcised
  88% of non-Hispanic white men
  73% of non-Hispanic black men
  42% of Mexican American men
  50% of men of other races/ethnicities
Decreasing:
  62.5% in 1999 to 56.9% in 2008 (NHDS)
  63.5% in 1999 to 56.3% in 2008 (NIS)
  58.4% in 2001 to 54.7% in 2010 (CDM)

Questions Addressed by AAP Task Force
• What is the current epidemiology of male circumcision in the United States?
• What are the effects of circumcision on transmission of sexually transmitted diseases?
• What are the common complications and the complication rates associated with male circumcision?
• What are the trends in financing and payment for elective circumcision?
• What best supports the parental decision-making process regarding circumcision?
Transmission of STIs

- Effects of circumcision on:
  - HIV
  - HPV
  - HSV
  - Syphilis
  - Gonorrhea
  - Chlamydia

- Proposed mechanism of transmission

Proposed mechanisms of transmission

- Microtears and abrasions
- High density of HIV target cells (e.g., Langerhans cells, CD4 T cells, macrophages), which facilitates HIV infection of host cells.
- The preputial space provides an environment that is thought to "trap" pathogens and bodily secretions, leading to increased contact.
- The exposed surfaces of the uncircumcised penis do not offer the same physical barrier to resist infection that the highly keratinized surface of a circumcised penis does.

Brief HIV Epidemiology

- 1.2 million people in the United States
- Approximately 50,000 Americans are newly infected with HIV each year
- New Infections:
  - MSM (61%)
  - Heterosexual exposure (27%)
  - IV drug use (9%)

Basis of Information:

3 RCTs: Kenya, South Africa, Uganda

- Men who had been randomly assigned to the circumcision group had a lower incidence of HIV infection:
  - 62% (South Africa)
  - 53% (Kenya)
  - 51% (Uganda)

- The controlled follow-up period was stopped early in all 3 studies, and the control group offered circumcision.
HIV Transmission
Circumcision shown to decrease transmission in heterosexual males.
- protective effect of 40% to 60% for male circumcision

Circumcision does not seem to decrease transmission in:
- Heterosexual females: 23% of new HIV infections
- MSM: 61% of new HIV infections

Risk outweigh benefit?
CDC says yes!
- Mathematical modeling by the CDC: 15.7% reduction in lifetime HIV risk for all males in the US.
- The CDC study suggests that newborn circumcision performed in the United States to prevent HIV infection is cost-effective without consideration of other health benefits.

HPV
"There is also good evidence from randomized controlled trials that male circumcision is associated with a lower prevalence of human papillomavirus (HPV) infection."

Uganda RCT:
- Lower prevalence of high-risk HPV subtypes among men in the circumcised group
- 10% higher rates of high-risk HPV in control group

HSV
- Circumcision in a rural Ugandan population significantly reduced the incidence of HSV-2 infection during 24 months of follow-up.
- The protective value of circumcision against HSV was ~25%.

Syphilis, Gonorrhea, Chlamydia

Syphilis: Circumcision may have some protective effect against syphilis, however not statistically significant effect in Uganda RCT.

Chlamydia: 1,078,933 cases reported to CDC in 2010
No significant relationship between circumcision and prevention of chlamydia

Gonorrhea: 309,341 cases reported to CDC in 2010
No significant relationship between circumcision and prevention of gonorrhea

UTI
~1% risk of UTI in the first year of life:
- 0.7% in uncircumcised infants versus 0.18% in circumcised infants
- Number needed to circumcise to prevent UTI is ~100.
- 195 circumcisions needed to prevent one hospital admission for UTI in the first year of life
- Benefits greater in male infants with underlying anatomic defects such as reflux or recurrent UTIs.
UTI

• A meta-analysis including 18 studies found a UTI prevalence of 20.1% among febrile uncircumcised boys <3 months of age and a prevalence of 2.4% among febrile circumcised boys <3 months of age.

• The 1-year probabilities of hospital admission for UTI were 7 fold higher in the uncircumcised group.

Risks

• Two US hospital-based studies estimate the risk of significant acute circumcision complications in the United States to be between 0.19% and 0.22%.
  ○ Bleeding was the most common complication (0.06% to 0.18%)
  ○ Infection (0.01%)
  ○ Penile injury (0.04%)

• Second study in Atlanta based hospital showed more frequent complication rate of 3.1.
  ○ Bleeding occurring in 2.7%, although most reports of bleeding were mild in nature.

Contraindications

• Significantly premature infants
• Known blood dyscrasias
• Family history of bleeding disorders
• Congenital abnormalities (such as hypospadias)

Additionally:
• Physician should confirm that vitamin K has been administered, in accordance with standard practice of newborn care.

Cost

• 2005: cost of circumcision was from $216 to $601 (CDC).

• Hospitals in states where Medicaid covers routine newborn male circumcision have circumcision rates that are 24% higher.

• 20-year decline in rates have already contributed to upwards of $2 billion in added costs.

Medicaid and Circumcision

• Colorado 2011
• South Carolina 2011
• Louisiana 2005
• Idaho 2005
• Minnesota 2005
• Maine 2004
• Montana 2003
• Utah 2003
• Florida 2003
• Missouri 2002
• Arizona 2002

• North Carolina 2002
• California before 1999
• North Dakota before 1999
• Oregon before 1999
• Mississippi before 1999
• Nevada before 1999
• Washington before 1999

Cost

• Study out of John Hopkins University estimates the extra costs of decreasing male circumcision rates at more than $4.4 billion, if only 10% of the male population were circumcised, as is the case in Europe.
  ○ This assumes a 12% increase in lifetime HIV prevalence among men and a 30% rise in human papillomavirus (HPV) among men and women, 20% rise in HSV, and a 212% rise in UTI's.
  ○ An extra $407 in costs per man and $43 per woman.

**Counseling**

**WHAT PARENTS SAY:**
- 80% state their decision was made before a discussion with the clinician.
- 70% changed their mind based on their provider’s discussion
- 4% of parents reportedly discussed circumcision with their clinician before the pregnancy.

**WHAT WE SAY:**
- 67% report discussing of circumcision with parents.
- 62% make no recommendation
- 18% recommend to all or most
- 7% recommend against


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**Why Do Parents Choose Circumcision?**

**Reasons For:**
- Hygiene and cleanliness of the penis (67%)
- Health/medical benefits (41%)
- Social concerns (such as having a father or brother who was circumcised) (37%)
- Religious requirements for circumcision (14%)

**Reasons Against:**
- Unnecessary (73%)
- Painful (36%)
- Social (father uncircumcised) (18%)

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**WHAT SHOULD WE SAY?**

“It is important that clinicians routinely inform parents of the health benefits and risks of male newborn circumcision in an unbiased and accurate manner.”
AAP Task Force 2012

“This conversation should take place before conception or early in pregnancy as this is when most parent report making this decision.”
AAP Task Force 2012

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**Parent have the final say!**

“Parents ultimately should decide whether circumcision is in the best interests of their male child. They will need to weigh medical information in the context of their own religious, ethical, and cultural beliefs and practices. The medical benefits alone may not outweigh these other considerations for individual families.” AAP 2012

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**Summary**

- Declining rates of circumcision over last 10 years
  - 79% in 1970-80s → 63% in 1999 → 55% in 2010 (CDC estimate)
- Protective effects against
  - HIV in heterosexual males
  - HSV-2
  - Higher risk HPV
  - UTI (0.7% vs 0.1%)
- Not protective against
  - Syphilis, gonorrhea, chlamydia
- Complications
  - 0.19% and 0.22% (bleeding, infection, injury)
- Cost is a factor
- Counseling should happen early
- It’s up to the parents

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**Resources**

- TASK FORCE ON CIRCUMCISION Pediatrics 2012;130:e756-e785
- http://www.cdc.gov/hiv/malecircumcision/