Clinical Policy Title: Neonatal circumcision in males

Clinical Policy Number: 11.03.01

Effective Date: December 1, 2013
Initial Review Date: August 17, 2013
Most Recent Review Date: August 17, 2017
Next Review Date: August 2018

Related policies:
None.

ABOUT THIS POLICY: Select Health of South Carolina has developed clinical policies to assist with making coverage determinations. Select Health of South Carolina’s clinical policies are based on guidelines from established industry sources, such as the Centers for Medicare & Medicaid Services (CMS), state regulatory agencies, the American Medical Association (AMA), medical specialty professional societies, and peer-reviewed professional literature. These clinical policies, along with other sources, such as plan benefits and state and federal laws and regulatory requirements, including any state- or plan-specific definition of “medically necessary,” and the specific facts of the particular situation are considered by Select Health of South Carolina when making coverage determinations. In the event of conflict between this clinical policy and plan benefits and/or state or federal laws and/or regulatory requirements, the plan benefits and/or state and federal laws and/or regulatory requirements shall control. Select Health of South Carolina’s clinical policies are for informational purposes only and not intended as medical advice or to direct treatment. Physicians and other health care providers are solely responsible for the treatment decisions for their patients. Select Health of South Carolina’s clinical policies are reflective of evidence-based medicine at the time of review. As medical science evolves, Select Health of South Carolina will update its clinical policies as necessary. Select Health of South Carolina’s clinical policies are not guarantees of payment.

Coverage policy

Select Health of South Carolina considers the use of neonatal circumcision to be clinically proven and, therefore, medically necessary when the following criteria are met:

- The infant is male with no substantial anatomic or health problems.
- The infant is within four weeks of birth.
- The infant is within four weeks of anticipated date of birth for those infants born prematurely.

Limitations:

Under Medicaid rules and regulations, circumcision of the newborn male child is covered in most states; however, 18 states (up from a total of 12 states identified in the 2015 iteration of this policy) do not fund Medicaid circumcision (Circumcision Resource Center 2017). They are:

- Arizona.
- California.*
- Colorado.
- Florida.
Idaho.
Louisiana.
Maine.
Minnesota.
Mississippi.*
Missouri.
Montana.
Nevada.*
North Carolina.
North Dakota.*
Oregon.*
South Carolina.
Utah.
Washington.*

(* indicates a state adopting non-payment since 2015)

The medical specialties anticipated to be able to appropriately provide newborn circumcision include physicians credentialed as obstetrician-gynecologists, pediatricians, family physicians, and urologic, pediatric, and plastic surgeons. Circumcisions performed by non-credentialed physicians or by religious practitioners are not covered benefits.

Covered circumcisions may be performed while the baby is in the hospital or in an office setting between hospital discharge and 28 days of life.

Contraindications to circumcision include anomalies of the penis (especially hypospadias where foreskin may be used in reconstruction), bleeding diathesis, sepsis, and lack of clinical stability.

**Alternative covered services:**

Consultation with pediatric, urologic, or plastic/reconstructive providers (e.g., hypospadias, coagulopathy, infection, or other related concerns).

**Background**

Circumcision of newborn male infants is one of the more common surgical procedures performed in the United States, with estimates of 1.2 to 1.8 million procedures performed annually. Despite the frequency of the procedure, it is also highly controversial. There is wide geographic and cultural variation found globally. Circumcision is uncommon in South America, Central America, Asia, and most of Europe. It is common in the U.S., Canada, and Israel. The practice of circumcision is part of the religious culture of both Jewish and Islamic faiths.
Within the U.S., there have been swings in the opinion of the professional community as to the advisability of newborn circumcision. In 1971, the American Academy of Pediatrics (AAP) concluded in its book, *Standards and Recommendations of Hospital Care of Newborn Infants*, that there was no scientific basis to the practice of circumcision. Rather, the AAP indicated, it was based on religious standards. A decade later, initial studies were published demonstrating higher rates of urinary tract infection (UTI) in uncircumcised males.

The AAP Circumcision Policy Statement in 1999 reviewed the then-available scientific evidence and concluded that “data are not sufficient to recommend routine neonatal circumcision,” and suggested parents determine what is “in the best interest of the child.” However, in 2012, the AAP re-reviewed the topic in light of newer information on reduced infections and concluded that “the health benefits of newborn circumcision outweigh the risks.” The AAP Task Force on Circumcision specifically mentioned lower rates of UTI, penile cancer, and transmission of some sexually transmitted diseases (STDs), including human immunodeficiency virus (HIV) infection.

**Searches**

Select Health of South Carolina searched PubMed and the databases of:

- UK National Health Services Centre for Reviews and Dissemination.
- Agency for Healthcare Research and Quality Guideline Clearinghouse and evidence-based practice centers.
- The Centers for Medicare & Medicaid Services (CMS).

We conducted searches on June 27, 2017. Search terms were: “newborn circumcision” and “neonatal circumcision.”

We included:

- **Systematic reviews**, which pool results from multiple studies to achieve larger sample sizes and greater precision of effect estimation than in smaller primary studies. Systematic reviews use predetermined transparent methods to minimize bias, effectively treating the review as a scientific endeavor, and are thus rated highest in evidence-grading hierarchies.
- **Guidelines based on systematic reviews**.
- **Economic analyses**, such as cost-effectiveness, and benefit or utility studies (but not simple cost studies), reporting both costs and outcomes — sometimes referred to as efficiency studies — which also rank near the top of evidence hierarchies.

**Findings**

The AAP Technical Report and its accompanying Policy Statement (2012) likely constitute the world’s most comprehensive and thoughtful analyses of male neonatal circumcision. The combined insight of
the AAP Board of Directors and liaisons representing the American Academy of Family Physicians (AAFP),
the American College of Obstetricians and Gynecologists (ACOG), and the Centers for Disease Control
and Prevention identified selected topics relevant to male circumcision and conducted a critical review
of peer-reviewed literature by using the American Heart Association's template for evidence evaluation.
According to the reports, current evidence indicates that the health benefits of newborn male
circumcision outweigh the risks and the benefits of newborn male circumcision justify access to this
procedure for families who choose it. The AAP policy goes on to recognize the medical benefits of
circumcision and recommends the removal of financial barriers to this procedure.

A number of key points emerged in the AAP report:

- Parents are entitled to factual, nonbiased information about circumcision that should be
  provided before conception and early in pregnancy, when parents are most likely to weigh the
  option of circumcision of a male child.
- Physicians counseling families about elective male circumcision should assist parents by
  explaining, in a nonbiased manner, the potential benefits and risks and by ensuring that they
  understand the elective nature of the procedure.
- Parents should weigh the health benefits and risks in light of their own religious, cultural, and
  personal preferences, as the medical benefits alone may not outweigh these other
  considerations for individual families.
- Parents of newborn boys should be instructed in the care of the penis, regardless of whether the
  newborn has been circumcised or not.
- Elective circumcision should be performed only if the infant’s condition is stable and healthy.
- Male circumcision should be performed by trained and competent practitioners by using sterile
  techniques and effective pain management.
- Analgesia is safe and effective in reducing the procedural pain associated with newborn
  circumcision; thus, adequate analgesia should be provided whenever newborn circumcision is
  performed.

Nonpharmacologic techniques alone (e.g., positioning and sucrose pacifiers) are insufficient to prevent
procedural and post-procedural pain and are not recommended as the sole method of analgesia. They
should be used only as analgesic adjuncts to improve infant comfort during circumcision. If used, topical
creams may cause a higher incidence of skin irritation in low-birth-weight infants, compared with infants
of normal weight; penile nerve block techniques should therefore be chosen for this group of newborns.

Several arguments support newborn circumcision:

- Higher risk (up to 12 times) of UTI among uncircumcised males between ages 1 and 16.
- Lower rates of HIV transmission among heterosexual males. Male circumcision is now a major
  public health strategy in developing countries, especially those in sub-Saharan Africa.
- Lower rates of transmission of certain other STDs. The evidence for reduced rates of
  transmission is stronger for syphilis, herpes simplex type 2, human papillomavirus, and bacterial
  vaginitis, but not for chlamydia or gonorrhea.
- Reduced rates of both penile cancers in circumcised males and cervical cancer in the female partners of circumcised males who have had multiple sexual contacts.
- Major complications from neonatal circumcision, such as amputation of the glans or penis, are so rare as to be case reports. When complications do occur, they are relatively minor and their incidence is acceptably low (1 percent to 3 percent).

Arguments against newborn circumcision exist as well:
- Unnecessary pain — the majority of newborn circumcisions have until recently been performed without the use of sufficient local anesthesia, especially dorsal penile block or circumferential infiltration with lidocaine.
- Phimosis and penile skin disorders are reduced, but not eliminated. The available studies are epidemiologic and not randomized controlled trials (RCTs).
- Complications such as infection, bleeding, removal of too much or too little foreskin, and amputation of the penis are unusual, but would not occur at all in the absence of circumcision.

There are also arguments over the ethical values surrounding newborn circumcision:
- Choice of neonatal circumcision undermines the individual’s right to self-determination and autonomy. The moral dilemma rests between a choice better made by parental guardians when the procedure can be done with lower complication rates, or better made by the individual male when he is of age, but when complications are more common.
- Loss of social benefit (e.g., if circumcision is deferred until age of competency, there is the loss of social benefit if the male is sexually active prior to circumcision).
- Circumcision is often performed for social or religious reasons, but is performed in a medical environment. Which set of values takes precedent: the social and religious values or the medical values?
- The Hippocratic precept of “first do no harm” may be raised, as well as the utilitarian arguments of the common good.

The AAFP published its own policy statement on neonatal circumcision in 2013 highlighting the potential health benefits of neonatal circumcision. The evidence is strongest for the prevention of UTI in newborn males. The number needed to prevent one UTI is about 140 and to prevent one hospitalization for UTI is 195. The AAFP also pointed out that circumcision may prevent penile cancer, but this is a rare disease (with a prevalence of 0.6/100,000 population), and the number needed to treat to prevent one case is approximately 300,000. In addition, about one of three penile cancers is caused by human papilloma virus (HPV) and may be prevented by the HPV vaccine. There is also evidence that circumcision can prevent some STDs, including HIV, but the evidence for this comes from studies of adult circumcision in Africa and may not apply to neonatal circumcision in the western world.

The AAFP concluded that the potential health benefits from circumcision justify it being a covered medical service by third-party payers, and it should be an available service for those who desire it. Furthermore, the decision whether to circumcise a newborn male is affected by parents’ values and
beliefs and should be made by parents after a discussion of the potential benefits and harms. Family physicians should provide this information in an unbiased manner, and the parents’ decision should be respected.

Neonatal circumcision for prevention of UTI in male infants by reducing periurethral bacterial colonization is an established practice nationwide; however, Jagganath (2012) could not identify any studies for inclusion to assess the efficacy of this measure in a systematic review. Until further evidence becomes available, clinicians should continue to base their decisions on position statements and recommendations in conjunction with the opinions of the children's parents.

Policy updates:

An increasing number of states are denying Medicaid coverage for male neonatal circumcision though none appear to have done so in the last twelve months. Accumulating medical evidence suggests that this shift is related to adverse economic consequences in the longer term. For example, as of 2005 Louisiana no longer covers elective circumcision under Medicaid programs. Cost savings were a driver in the decision to limit circumcision coverage, although evidence of actual cost savings to Medicaid programs in the wake of this decision are hard to identify. A systematic review (n=7000) of male circumcisions performed in Scandinavia reviewed and described factors associated with complications of circumcision in infant boys over the last two decades and discussed how these complications could be avoided (Edler 2016). Information was retrieved from testimonies of circumcisers, witnesses, medical records and verdicts. The authors identified a total of 74 complications in these cases. These included four boys with severe bleeding and circulatory shock, which ended in the death of one boy. The authors concluded that complications following male circumcision were relatively rare, but serious complications did occur, and that circumcision should only be performed at hospitals with 24-hour emergency departments.

Ortenberg (2013) compared the number of neonatal and non-neonatal circumcisions in boys 0 to 5 years old in Louisiana before (2002 – 2004) and after (2006 – 2010) the policy change. The average annual number of neonatal circumcisions was significantly decreased after the policy change, with an average savings per procedure of $88.34. However, at a cost of $486.76 for non-neonatal circumcision, those savings were wiped out in only two years, and a much higher financial burden on the health care system resulted following a higher rate of payment for non-neonatal circumcision. This cost-shifting from neonatal to non-neonatal circumcision also failed to consider the significant increase in the likelihood of complication and loss of social benefit associated with circumcision delayed into childhood.

Gutwein (2013) found similar state Medicaid policies led to significant financial implications from increasing numbers of non-neonatal circumcisions in Florida. A retrospective population study was performed using the Florida Agency for Health Care Administration outpatient procedure database to identify patients 0 to 17 years of age undergoing circumcision between 2003 and 2008. The authors found a significant increase in the number of non-neonatal circumcisions performed that resulted in an increase in health care costs that was specific to the black population and publicly funded health
disbursements. The authors concluded that enlightened public funding of neonatal circumcision could result in significant cost savings and avoid potential complications of general anesthesia and other adverse consequences of circumcision deferred into childhood.

**Summary of clinical evidence:**

<table>
<thead>
<tr>
<th>Citation</th>
<th>Content, Methods, Recommendations</th>
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<tbody>
<tr>
<td><strong>Edler (2016)</strong></td>
<td><strong>Key points:</strong></td>
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</table>
| Serious complications in male infant circumcisions in Scandinavia indicate that this always be performed as a hospital-based procedure. | - A systematic review (n=7000) of male circumcisions performed in Scandinavia reviewed and described factors associated with complications of circumcision in infant boys over the last two decades and discussed how these complications could be avoided.  
  - Information was retrieved from testimonies of circumcisers, witnesses, medical records and verdicts.  
  - The authors identified a total of 74 complications in these cases.  
  - These included four boys with severe bleeding and circulatory shock, which ended in the death of one boy.  
  - The authors concluded that complications following male circumcision were relatively rare, but serious complications did occur, and that circumcision should only be performed at hospitals with 24-hour emergency departments. |
| **Ortenberg (2013)** | **Key points:**                                                                                  |
| Projected financial impact of noncoverage of elective circumcision by Louisiana Medicaid in boys zero to 5 Years Old. | - Several states, including Louisiana as of 2005, no longer cover elective circumcision under Medicaid programs.  
  - The authors analyzed the number of neonatal and non-neonatal circumcisions in boys zero to 5 years old to determine trends during the selected period.  
  - The number and cost of procedures were compared before (2002 – 2004) and after (2006 – 2010) the policy change.  
  - The average annual number and expense of neonatal circumcisions were significantly decreased after the policy change. There was no significant decrease in non-neonatal procedures and expense.  
  - Cost per procedure ranged from $88.34 for neonatal to $486.76 for non-neonatal circumcision. Secondary to the increasing number of more costly non-neonatal procedures, the annual expense was predicted to exceed pre-policy levels by 2015. |
| **Gutwein (2013)** | **Key points:**                                                                                  |
| Allocation of healthcare dollars: analysis of non-neonatal circumcisions in Florida. | - A retrospective population study was performed using the Florida Agency for Health Care Administration outpatient procedure database of patients zero to 17 years of age undergoing circumcision between 2003 and 2008.  
  - From 2003 – 2008, 31,741 outpatient circumcisions were performed, for which publicly funded circumcisions accounted for 17,537 charging the state $6,263 on average for each circumcision at an expense of $111.8 million for the five-year time period analyzed.  
  - Publicly funded circumcision procedures increased more than six-fold (P < 0.0001) than those covered by private insurance. Black circumcision procedures increased 77.3 percent, whereas white circumcisions increased 28.7 percent.  
  - There was a significant increase in the number of non-neonatal circumcisions performed, which resulted in an increase in expenditure for health care, suggesting that enlightened public funding of neonatal circumcision could result in significant cost savings and avoid |
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<thead>
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<tr>
<td><strong>AAFP (2013)</strong></td>
<td><strong>Key points:</strong></td>
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<tr>
<td>Neonatal circumcision</td>
<td>• The AAFP highlighted the potential health benefits of neonatal circumcision (e.g., for the prevention of UTI in newborn males).</td>
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<td></td>
<td>• The number of neonatal circumcisions needed to treat to prevent one UTI is about 140 and to prevent one hospitalization for UTI is 195.</td>
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<td>• The AAFP also pointed out that circumcision may prevent penile cancer, but this is a rare disease (with a prevalence of 0.6/100,000 population), and the number needed to treat to prevent one case is approximately 300,000.</td>
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<td>• The AAFP concluded that the potential health benefits from circumcision justify it being a covered medical service by third-party payers, and it should be an available service for those who desire it.</td>
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<tr>
<td><strong>AAP (2012)</strong></td>
<td><strong>Key points:</strong></td>
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<tr>
<td>Male circumcision technical report</td>
<td>• Neonatal circumcision is indicated for prevention of UTI in male infants by reducing periurethral bacterial colonization.</td>
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<td></td>
<td>• Until further evidence becomes available, clinicians should continue to base their decisions on position statements and recommendations in conjunction with the opinions of the children’s parents.</td>
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<tr>
<td><strong>AAP (2012)</strong></td>
<td><strong>Key points:</strong></td>
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<tr>
<td><strong>Jagganath (2012)</strong></td>
<td><strong>Key points:</strong></td>
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<tr>
<td>Routine neonatal circumcision for the prevention of UTI in infancy</td>
<td>• Circumcision is a relatively simple procedure and is associated with minimal complications when carried out in neonates rather than in later life.</td>
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<td></td>
<td>• The authors did not find any trials to support or refute the effectiveness of routine neonatal circumcision to prevent UTI in infancy.</td>
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<td></td>
<td>• Although limited data from previous studies have shown that this intervention might be beneficial, questions regarding the safety and effectiveness of routine neonatal circumcision for the prevention of UTI in infancy remain.</td>
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<tr>
<td><strong>AAP (1999)</strong></td>
<td><strong>Key points:</strong></td>
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<tr>
<td>Circumcision Policy Statement</td>
<td>• Work group consensus that “existing scientific evidence demonstrates potential medical benefits.”</td>
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<tr>
<td></td>
<td>• Data are not sufficient to recommend routine neonatal circumcision.</td>
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<tr>
<td><strong>Shaik (2008)</strong></td>
<td><strong>Key points:</strong></td>
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<tr>
<td>Prevalence of UTI in childhood: a meta-analysis</td>
<td>• Meta-analysis using 51 articles, 18 of which met all inclusion criteria.</td>
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<td>• Among febrile male infants less than three months old, 2.4% (confidence interval [CI]: 1.4 – 3.5) of circumcised males and 20.1% (CI: 16.8 – 23.4) of uncircumcised males had a UTI.</td>
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<td><strong>Morris (2012)</strong></td>
<td><strong>Key points:</strong></td>
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<tr>
<td>A “snip” in time: When is the best age to</td>
<td>• Review of arguments opposing neonatal circumcision.</td>
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</tbody>
</table>
circumcise?
- Protection afforded by neonatal circumcision includes reduction in UTI and protection against HIV and other STDs.
- Favorable risk/benefit ratio and cost/benefit support the advantages of circumcision.

Siegfried (2009)
Male circumcision for prevention of heterosexual acquisition of HIV in men

Key points:
- Review of three RCTs from Africa, involving 11,000 males circumcised as adults.
- Relative risk reduction of acquiring HIV of 50% at 12 months and 54% at 21 or 24 months following circumcision.
- There is strong evidence that medical male circumcision reduces the acquisition of HIV by heterosexual men by 38% – 66% over 24 months.

References

Professional society guidelines/other:


Peer-reviewed references:


**CMS National Coverage Determination (NCDs):**

No NCDs identified as of the writing of this policy.

**Local Coverage Determinations (LCDs):**

No LCDs identified as of the writing of this policy.
Commonly submitted codes

Below are the most commonly submitted codes for the service(s)/item(s) subject to this policy. This is not an exhaustive list of codes. Providers are expected to consult the appropriate coding manuals and bill accordingly.

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<thead>
<tr>
<th>CPT Code</th>
<th>Description</th>
<th>Comment</th>
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<tbody>
<tr>
<td>54150</td>
<td>Circumcision, using clamp or other device with regional dorsal penile or ring block</td>
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<tr>
<td>54160</td>
<td>Circumcision, surgical excision other than clamp, device or dorsal slit; neonate (28 days of age or less)</td>
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<table>
<thead>
<tr>
<th>ICD-10 Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>Z38.00</td>
<td>Single liveborn infant, delivered vaginally</td>
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<tr>
<td>Z38.01</td>
<td>Single liveborn infant, delivered by cesarean</td>
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<tr>
<td>Z38.1</td>
<td>Single liveborn infant, born outside hospital</td>
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<tr>
<td>Z38.2</td>
<td>Single liveborn infant, unspecified as to place of birth</td>
<td></td>
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<tr>
<td>Z38.30</td>
<td>Twin liveborn infant, delivered vaginally</td>
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<tr>
<td>Z38.31</td>
<td>Twin liveborn infant, delivered by cesarean</td>
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<td>Z38.4</td>
<td>Twin liveborn infant, born outside hospital</td>
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<td>Z38.5</td>
<td>Twin liveborn infant, unspecified as to place of birth</td>
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<tr>
<td>Z38.61</td>
<td>Triplet liveborn infant, delivered vaginally</td>
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<td>Z38.62</td>
<td>Triplet liveborn infant, delivered by cesarean</td>
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<td>Z38.63</td>
<td>Quadruplet liveborn infant, delivered vaginally</td>
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<tr>
<td>Z38.64</td>
<td>Quadruplet liveborn infant, delivered by cesarean</td>
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<tr>
<td>Z38.65</td>
<td>Quintuplet liveborn infant, delivered vaginally</td>
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<tr>
<td>Z38.66</td>
<td>Quintuplet liveborn infant, delivered by cesarean</td>
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<tr>
<td>Z38.68</td>
<td>Other multiple liveborn infant, delivered vaginally</td>
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<td>Z38.69</td>
<td>Other multiple liveborn infant, delivered by cesarean</td>
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<td>Z38.7</td>
<td>Other multiple liveborn infant, born outside hospital</td>
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<td>Z38.8</td>
<td>Other multiple liveborn infant, unspecified as to place of birth</td>
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<tr>
<td>Z41.2</td>
<td>Encounter for routine and ritual male circumcision</td>
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<thead>
<tr>
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<th>Description</th>
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