Phimosis and Paraphimosis

- Author: Hina Z Ghory, MD; Chief Editor: Pamela L Dyne, MD more...

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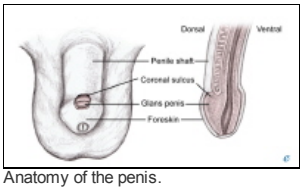
Background

Phimosis refers to the inability to retract the distal foreskin over the glans penis. *Physiologic phimosis* occurs naturally in newborn males. *Pathologic phimosis* defines an inability to retract the foreskin after it was previously retractible or after puberty, usually secondary to distal scarring of the foreskin.

Paraphimosis is the entrapment of a retracted foreskin behind the coronal sulcus. Paraphimosis is a disease of uncircumcised or partially circumcised males.

Pathophysiology

The uncircumcised male penis comprises the penile shaft, the glans penis, the coronal sulcus, and the foreskin/prepuce, as shown below.



Anatomy of the penis.

Physiologic phimosis results from adhesions between the epithelial layers of the inner prepuce and glans. These adhesions spontaneously dissolve with intermittent foreskin retraction and erections, so that as males grow, physiologic phimosis resolves with age.

Poor hygiene and recurrent episodes of balanitis or balanoposthitis lead to scarring of preputial orifices, leading to pathologic phimosis. Forceful retraction of the foreskin leads to microtears at the preputial orifice that also leads to scarring and phimosis. Elderly persons are at risk of phimosis secondary to loss of skin elasticity and infrequent erections.

Patients with phimosis, both physiologic and pathologic, are at risk for developing paraphimosis when the foreskin is forcibly retracted past the glans and/or the patient or caretaker forgets to replace the foreskin after retraction. Penile piercings increase the risk of developing paraphimosis if pain and swelling prevent reduction of a retracted foreskin.

With time, impairment of venous and lymphatic flow to the glans leads to venous engorgement and worsening swelling. As the swelling progresses, arterial supply is compromised, leading to penile infarction/necrosis, gangrene, and eventually, autoamputation.

Epidemiology

Frequency

United States

Up to 10% of males will have physiologic phimosis at 3 years of age, and a larger percentage of children will have only partially retractible foreskins. One to five percent of males will have nonretractible foreskins by age 16 years.[1, 2]

Contributor Information and Disclosures

Author
Hina Z Ghory, MD Assistant Attending Physician, Department of Emergency Medicine, New York-Presbyterian Hospital, Weill Cornell Medical Center

Hina Z Ghory, MD is a member of the following medical societies: American College of Emergency Physicians and Phi Beta Kappa

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Coauthor(s)
Rahul Sharma, MD, MBA, FACEP Medical Director and Associate Chief of Service, NYU Langone Medical Center, Tisch Hospital Emergency Department; Assistant Professor of Emergency Medicine, New York University School of Medicine

Rahul Sharma, MD, MBA, FACEP is a member of the following medical societies: American College of Emergency Physicians, American College of Physician Executives, Phi Beta Kappa, and Society for Academic Emergency Medicine

Disclosure: Nothing to disclose.

Specialty Editor Board
Jerry Balentine, DO Professor and Chair of Emergency Medicine, New York Institute of Technology College of Osteopathic Medicine; Executive Vice President, St Barnabas Hospital

Jerry Balentine, DO is a member of the following medical societies: American College of Emergency Physicians, American College of Osteopathic Emergency Physicians, American College of Physician Executives, American Osteopathic Association, and New York Academy of Medicine

Disclosure: Nothing to disclose.

Francisco Talavera, PharmD, PhD Adjunct Assistant Professor, University of Nebraska Medical Center College of Pharmacy; Editor-in-Chief, Medscape Drug Reference

Disclosure: Medscape Salary Employment

Richard H Sinert, DO Professor of Emergency Medicine, Clinical Assistant Professor of Medicine, Research Director, State University of New York College of Medicine; Consulting Staff, Department of Emergency Medicine, Kings County Hospital Center

Richard H Sinert, DO is a member of the following medical societies: American College of Physicians and Society for Academic Emergency Medicine

Disclosure: Nothing to disclose.

John D Halamka, MD, MS Associate Professor of Medicine, Harvard Medical School, Beth Israel Deaconess Medical Center; Chief Information Officer, CareGroup Healthcare System and Harvard Medical School; Attending Physician, Division of Emergency Medicine, Beth Israel Deaconess Medical Center

John D Halamka, MD, MS is a member of the following medical societies: American College of Emergency Physicians, American Medical Informatics Association, Phi Beta Kappa, and Society for Academic Emergency Medicine

Disclosure: Nothing to disclose.

Chief Editor
Pamela L Dyne, MD Professor of Clinical Medicine/Emergency Medicine, University of California, Los Angeles, David Geffen School of Medicine; Attending Physician, Department of Emergency Medicine, Olive View-UCLA Medical Center

Pamela L Dyne, MD is a member of the following medical societies: American Academy of Emergency Medicine, American College of Emergency Physicians, and Society for Academic Emergency Medicine

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