Percutaneous nephrostomy tube

Various conditions can lead to a blockage in the passage of urine from the kidney to the bladder. To go around the blockage, interventional radiologists may insert a percutaneous nephrostomy tube. While the patient is given sedation or pain-relieving medications, the interventional radiologist inserts a needle toward the kidney using image guidance (or live x-rays). Once the needle reaches the area of the kidney where the urine collects, the physician exchanges the needle with a thin hollow nephrostomy tube or catheter. The tube is then anchored to the skin and attached to a bag outside of the body, allowing the urine to drain. To confirm placement of the percutaneous nephrostomy tube, the interventional radiologist injects dye to ensure that it is functioning properly. Reasons for placing tube include relieving obstruction and infection in the setting of urosepsis. This procedure can be performed as the first step in a percutaneous nephrolithotomy procedure, where a urologist goes through the tract where the tube passes and places a scope to remove kidney stones. Variations of the procedure include placing nephroureteral stents where the tube also goes into the bladder, and placing ureteral stents.

If no complications are seen within 24 hours after treatment, the patient may go home. It is normal for urine to look pink or tinged with blood, but is expected to return to normal within 48 hours. The tubes are often exchanged for new tubes every 3 months, or as needed, to avoid a blockage from the buildup of debris.