Coding Changes for 2016

A review of changes in CPT coding for interventional procedures effective January 2016.

BY KATHARINE L. KROL, MD, FSIR, FACR



This article reviews the changes in CPT coding for interventional procedures that will take effect January 1, 2016. The majority of these changes are for nonvascular interventional procedures, with almost complete new coding for percutaneous genitourinary (GU)

and biliary procedures.

INTRACRANIAL ARTERIAL THERAPIES

Three new codes have been added for intracranial arterial therapies for CPT 2016. For purposes of using these codes, the intracranial circulation is defined as three territories: right internal carotid, left internal carotid, and bilateral vertebrobasilar. For each intracranial vascular territory treated, only one of these codes may be reported.

Code 61645 describes therapy for acute stroke. It includes all elements of service provided for the vascular territory involved in the therapy:

- · Vessel catheterization
- Diagnostic angiography for the vessel territory treated
- All therapy provided to treat acute thrombus/ embolus within that vascular territory (mechanical and/or pharmacologic)
- All angiography and imaging guidance before, during, and at completion of the therapy
- Neurologic and hemodynamic monitoring of the patient throughout the procedure
- · Balloon angioplasty or stenting
- · Vessel closure by any method

All pharmacologic therapy provided within the territory is inherent to 61645, including thrombolytics, glycoprotein IIa/IIb inhibitors, spasmolytics, and anticoagulants. Balloon angioplasty and/or stenting within the treated vascular territory is not separately reported with 61645. Diagnostic angiography of intracranial

KEY

- New code effective January 1, 2016
- Moderate sedation is included in the code and is not separately reported
- + Add-on code

territories that did not undergo therapeutic intervention in the same session may be separately reported when performed.

Codes 37184, 37185, and 37186 have been edited to include only arterial mechanical thrombectomy for peripheral arteries, now specifying non-intracranial as well as noncoronary arteries, and should no longer be reported for acute stroke therapy. However, intracranial venous thrombolysis and mechanical thrombectomy will continue to be reported with the codes for peripheral venous work (37187, 37188, 37212, 37214).

•61645

Percutaneous arterial transluminal mechanical thrombectomy and/or infusion for thrombolysis, intracranial, any method, including diagnostic angiography, fluoroscopic guidance, catheter placement, and intraprocedural pharmacologic thrombolytic injection(s)

Codes 61650 and 61651 describe infusion therapy for intracranial arteries other than those used for thrombolysis. These codes include vessel catheterization and diagnostic angiography for the vessel territory treated; all drug infusion into the territory; all angiography and imaging guidance provided before, during, and for follow-up of the infusion therapy; neurologic and hemodynamic monitoring of the patient; and vessel closure by any method. Diagnostic angiography for other vascular territories outside the treated territory may be separately reported.

For example, codes 61650 and 61651 would be used for intracranial infusion for arterial spasm or for chemotherapy. Code 61650 is the base code and describes the service for the initial vascular territory treated. If additional vascular territories are treated, the add-on code 61651 is reported for each additional territory treated (may be reported up to two times because there are only three potential vascular territories for treatment). A minimum of 10 minutes of continuous or intermittent infusion is required to report 61650 and 61651. Bolus injections of drug are not reported with these codes. If the infusion is stopped or paused and then resumed, the entire length of infusion is considered as part of the continuous infusion time. For instance, if spasmolytic infusion results in hypotension and the infusion is paused but then resumed after the blood pressure is stabilized, the total time for the continuous infusion is calculated by adding the time of infusion up to pausing plus the total time of infusion once it resumes.

Codes 61650 and 61651 describe therapy for non-iatrogenic pathology. For instance, these codes are not used to describe administration or infusion of spasmolytic drugs for catheter-induced spasm and would not be reported for spasm requiring treatment during carotid stenting or acute stroke therapy. These codes should not be reported for use of heparin, nitroglycerin, saline, or other infusions or bolus drugs that are typically provided with intracranial diagnostic or therapeutic services. If balloon angioplasty is performed in conjunction with infusion therapy for intracranial spasm, both services may be reported.

•61650

Endovascular intracranial prolonged administration of pharmacologic agent(s) other than for thrombolysis, arterial, including catheter placement, diagnostic angiography, and imaging guidance; initial vascular territory

+ 61651

each additional vascular territory

INTRAVASCULAR ULTRASOUND

Two new bundled codes for noncoronary intravascular ultrasound (IVUS) have been developed (37252, 37253), and the existing component codes have been deleted (37250, 37251, 75945, 75946). These codes bundle radiologic supervision and interpretation with the IVUS procedure and are used for procedures involving both arteries and/or veins. Codes 37252 and 37253 describe the service of IVUS in a vessel during a single encounter, including the introduction and manipulation of the probe into the vessel, imaging guidance for the IVUS portions of the procedure, and radiologic supervision and

interpretation for the IVUS. These codes do not include vessel catheterization or diagnostic angiography, which may be separately reported.

Each code is an add-on code, meaning that it must be reported with a primary procedure code. The primary procedure(s) may be diagnostic angiography and/or interventional procedures. A vessel catheterization code (eg, 36005, 36200, 36245) may be the primary/base code for IVUS. Code 37252 is reported once per procedure for the first vessel studied with IVUS. Code 37253 may be reported for each additional vessel studied during the procedure and may be reported more than once if multiple additional vessels are studied. Each code is reported only once for all IVUS performed in that vessel during the entire procedure. IVUS performed as part of the diagnostic study, during an intervention to monitor progress of the intervention, and at the completion of the intervention to document completion would be reported only once for a single vessel. In addition, if a single pathology extends across more than one vessel, the IVUS code would be reported for a single vessel. For example, in a case of extensive lower extremity deep vein thrombosis extending from the popliteal vein through the inferior vena cava, IVUS of the entire thrombosed segment would be reported as a single vessel, and 37252 would be reported once regardless of how many times the IVUS probe was introduced and used to monitor progress of the intervention.

A few existing interventional CPT codes specifically include IVUS, so that IVUS may not be reported in addition to these services: vena cava filter insertion, repositioning, or retrieval (ie, 37191, 37192, 37193) and intravascular foreign body retrieval (37197).

⊙+**●**37252

IVUS (noncoronary vessel) during diagnostic evaluation and/or therapeutic intervention, including radiologic supervision and interpretation; initial noncoronary vessel

⊙+**●**37253

each additional noncoronary vessel

PERCUTANEOUS GENITOURINARY PROCEDURES

Extensive changes have been made to the code set for reporting percutaneous GU procedures. The majority of these changes were prompted by the mandate of the Relative Value Scale Update Committee (RUC) of the American Medical Association to bundle imaging with the surgical portion of the procedures. In addition to the bundling of services, the code set was updated as well, adding new codes for biopsy (50606), dilation (50706), and embolization (50705) of a ureter. With the exception of 50431

and 50435, all new codes include moderate sedation. Additionally, all new codes include all imaging required to perform the procedure and radiologic supervision and interpretation for the procedure. Each of these codes is reported once for each collecting system/ureteral unit separately accessed for diagnostic study or for treatment. If bilateral procedures are performed, both procedures would be reported. If there is a duplicated system and procedures are performed on each aspect of the system, both procedures would be reported. In the case of bilateral services or services in duplicated systems, modifiers such as -50 and -59 will be needed to indicate that more than one system was treated. For most services, a single code will now be reported for the services provided to a single collecting system/ureteral unit. Because ureteral biopsy, dilation, and embolization are reported with add-on codes, more than one code will be reported for that collecting system/ureteral unit when those services are provided.

Diagnostic Pyelography/Ureterography

●50430

Injection procedure for antegrade nephrostogram and/or ureterogram, complete diagnostic procedure including imaging guidance (eg, ultrasound and fluoroscopy) and all associated radiologic supervision and interpretation; new access

●50431

existing access

Code 50430 is reported when a diagnostic study is performed via new needle or catheter access into the renal pelvis, with injection of contrast and performance of diagnostic imaging with interpretation. Code 50431 is reported when a diagnostic study is performed through an existing access such as nephrostomy or a nephroureteral catheter already in place. For instance, 50431 would be reported for tube checks for nephrostomy/nephroureteral catheters. Some codes previously used for diagnostic studies (eg, 50390, 74425) were not deleted but were revised to clarify that these codes should not be reported in addition to or instead of 50430 and 50431. In addition, the diagnostic services described by 50430 and 50431 are included in the nephrostomy, nephroureteral catheter, and ureteral stent codes and are not separately reportable with these services (ie, 50432, 50433, 50434, 50435, 50693, 50694, 50695).

Nephrostomy

The new code to describe placement of a nephrostomy catheter (50432) includes the entire service of placement of the nephrostomy catheter, all imaging guidance (eg, ultrasound, fluoroscopy, CT), diagnostic pyelography/ureterography when performed, and

radiologic supervision and interpretation for the entire procedure.

⊙ ● 50432

Placement of nephrostomy catheter, percutaneous, including diagnostic nephrostogram and/or ureterogram when performed, imaging guidance (eg, ultrasound and/or fluoroscopy) and all associated radiologic supervision and interpretation

There is also a new code for exchange of an existing nephrostomy catheter, which bundles all imaging performed with the procedural portion of the service. Diagnostic pyelography/ureterography is included in this code and is not separately reported with 50431 when performed in conjunction with a tube change.

●50435

Exchange nephrostomy catheter, percutaneous, including diagnostic nephrostogram and/or ureterogram when performed, imaging guidance (eg. ultrasound and/or fluoroscopy) and all associated radiologic supervision and interpretation

There are no changes to reporting removal of nephrostomy tubes. Code 50389 may be reported when fluoroscopic guidance is required for nephrostomy tube removal. Nephrostomy tube removal without fluoroscopic guidance may be reportable as part of an evaluation and management service.

Nephroureteral Catheters

Two new codes were added to describe placement of a nephroureteral catheter. These are differentiated by whether an existing nephrostomy tract was utilized or a de novo tract was created via a new puncture.

⊙●50433

Placement of nephroureteral catheter, percutaneous, including diagnostic nephrostogram and/or ureterogram when performed, imaging guidance (eg, ultrasound and/or fluoroscopy), and all associated radiologic supervision and interpretation, new access

●50434

Convert nephrostomy catheter to nephroureteral catheter, percutaneous, including diagnostic nephrostogram and/ or ureterogram when performed, imaging guidance (eg, ultrasound and/or fluoroscopy), and all associated radiologic supervision and interpretation, via preexisting nephrostomy tract No updates were made for reporting an exchange of a nephroureteral stent; code 50387 continues to describe that service. (There was an editorial change made to the descriptor of 50387, with the term "nephroureteral catheter" replacing the previously used term "transnephric ureteral stent." Both terms describe the same procedure/device, so there is no change in the service reported by this code.)

There are also no updates in reporting removal of a nephroureteral stent. When fluoroscopy is required, 50389 is reported. Nephroureteral catheter removal without fluoroscopic guidance may be reportable as part of an evaluation and management service.

Ureteral Stents (Internal Catheters Not Externally Accessible)

Three new codes are added to describe percutaneous placement of internal (eg. double pigtail) ureteral stents (catheters). These are differentiated based on whether the procedure was performed through an existing percutaneous tract or through a new puncture/tract. Code 50695 also includes placement of a separate nephrostomy in addition to placement of a ureteral stent through a new access.

● 50693	Placement of ureteral stent, percutaneous, including diagnostic nephrostogram and/or ureterogram when performed, imaging guidance (eg, ultrasound and/or fluoroscopy), and all associated radiologic supervision and interpretation; preexist-
	ing nephrostomy tract
⊙●50694	new access, without separate nephrostomy catheter
⊙●50695	new access, with separate nephrostomy catheter

The codes for exchange and/or removal of existing ureteral stents were not changed. These services continue to be reported with CPT codes 50382, 50384, 50385, and 50386.

Biopsy, Embolization, and Dilation of Ureter

Three new codes allow reporting of the services of nonendoscopic (eg, not performed through a cystoscope or ureteroscope) ureteral biopsy, embolization/occlusion, and balloon dilation. These codes are add-on codes and include only the service described plus imaging required to perform that service. Access to the system, diagnostic pyelography/ureterography, and catheter placement/replacement are not included in the services these add-on codes describe. They are reported with pri-

mary (base) codes that describe the other services provided at the same patient encounter. For instance, access to the lesion(s) may be obtained through de novo flank puncture, existing percutaneous transnephric tract, noncystoscopic retrograde transurethral access, retrograde ileal loop access, and transureteral routes. Appropriate codes describing these accesses may be reported in addition to the biopsy, embolization, and/or dilation code(s). Placement or replacement of drainage catheters may be performed in conjunction with the biopsy, embolization, or dilation, and these would also be separately reported.

To determine if a diagnostic study is separately reported, one must look at the access code(s) appropriate for the case. The codes for transnephric access may include diagnostic study (ie, 50432–50435) or may not include a diagnostic study (ie, 50387, 50389). Codes for transurethral or ileal conduit access do not include a diagnostic study. If a diagnostic study is performed and documented and is not included in the access code, the diagnostic study may be separately reported (eg, 50430, 50431, 74425).

Code 50706 is specific for balloon dilation of a ureteral stricture. For example, it is not intended to report dilation of a stricture in a renal calyx and is not to be reported for serial dilation with graduated catheters or dilators.

⊙+●50606	Endoluminal biopsy of ureter and/or
	renal pelvis, nonendoscopic, including
	imaging guidance (eg, ultrasound and/or
	fluoroscopy) and all associated radiologic
	supervision and interpretation
⊙+● 50705	Ureteral embolization or occlusion,
	including imaging guidance (eg, ultra-

including imaging guidance (eg, ultrasound and/or fluoroscopy) and all associated radiologic supervision and interpretation

● ★●50706 Balloon dilation, ureteral stricture, including imaging guidance (eg, ultrasound and/or fluoroscopy) and all associated radiologic supervision and interpretation

PERCUTANEOUS BILIARY INTERVENTIONS

CPT 2016 introduces a new set of codes for percutaneous biliary procedures, replacing most of the existing code set for percutaneous biliary procedures and adding new codes specific for percutaneous therapies of the biliary tree. This code change was initiated by an RUC request to bundle imaging with the surgical/procedural portion of the services. In the process of making those changes, it was also decided to update the entire set of codes. Codes have been added to describe percutaneous balloon dilation of biliary strictures, stenting of the

biliary tree, endoluminal biopsy of the biliary tree, and rendezvous procedures.

The imaging required to perform each procedure is included in each code and is therefore not separately reported. In addition, diagnostic cholangiography is included with each code and therefore not separately reported. Moderate sedation is included in each code with the exception of 47531 (cholangiography performed through an existing access).

Diagnostic Cholangiography

The existing codes for percutaneous transhepatic cholangiography, T-tube cholangiography, and cholangiography through other existing catheters have been deleted and replaced with two new codes, 47531 and 47532. These codes describe complete services, including injection of contrast with diagnostic imaging, all imaging guidance required for the procedure, and radiologic supervision and interpretation. Code 47531 describes a diagnostic study performed through an existing catheter such as a biliary drain or a T tube. Code 47532 describes a diagnostic study performed through new percutaneous access into the biliary tree (eg, needle or catheter).

●47531 Injection procedure for cholangiography, percutaneous, complete diagnostic procedure including imaging guidance (eg, ultrasound and/or fluoroscopy) and all associated radiologic supervision and interpretation; existing access

■ ●47532 new access (eg, percutaneous transhepatic cholangiogram)

Placement of Percutaneous Biliary Drainage Catheter

Five new codes were added to describe services of biliary drainage catheter placement, exchange, and removal. Code 47533 is used for placement of an external biliary drain. Code 47534 is reported for placement of an internal-external biliary drain when placed at the time of the initial procedure. Code 47535 is reported for placement of an internalexternal biliary drain placed by conversion of an existing (previously placed) external drain. Code 47536 is reported for all exchanges of biliary catheters other than when an external drain is converted to an internal-external catheter. Code 47537 is reported for biliary drain removal when fluoroscopy is required. Biliary drain removal not requiring fluoroscopy may be reportable as part of an evaluation and management service. If multiple biliary drains are placed into separate portions of the biliary tree, each placement

may be reported using -50 or -59 modifiers to indicate separate procedures.

Placement of biliary drainage catheter,

●47533

percutaneous, including diagnostic cholangiography when performed, imaging guidance (eg, ultrasound and/or fluoroscopy), and all associated radiologic supervision and interpretation; external **●**47534 internal-external **●**47535 Conversion of external biliary drainage catheter to internal-external biliary drainage catheter, percutaneous, including diagnostic cholangiography when performed, imaging guidance (eg, fluoroscopy), and all associated radiologic supervision and interpretation ⊙ 47536 Exchange of biliary drainage catheter (eg, external, internal-external, or conversion of internal-external to external only), percutaneous, including diagnostic cholangiography when performed, imaging guidance (eg, fluoroscopy), and all associated radiologic supervision and interpretation ●47537 Removal of biliary drainage catheter, percutaneous, requiring fluoroscopic guidance (eg, with concurrent indwelling biliary stent), including diagnostic cholangiography when performed, imaging guidance (eg, fluoroscopy), and all

Placement of Biliary Stent

These codes describe placement of internal stents with no external access. These include metallic expanding stents (eg. self-expanding or balloon-expandable) or plastic catheter-type stents. These devices are placed to open areas of narrowing or obstruction in a bile duct or to bridge across an area of narrowing or obstruction.

interpretation

associated radiologic supervision and

The stenting codes 47538, 47539, and 47540 are differentiated by use of de novo percutaneous access versus use of an existing access and by whether a drainage catheter is left positioned in the biliary tree for continued external access.

Although the code descriptors specify that codes 47538, 47539, and 47540 are reported per stent, additional instruction is given in the CPT introductory instructional language to help users understand how this is to be interpreted for coding purposes. These codes are intended to be reported once per session per bile duct, or once per lesion if the lesion bridges more

than one bile duct, when placed through a single percutaneous access, with some exceptions. For instance, if there is an occlusion of the common hepatic duct, stent placement in the common hepatic duct would be considered a single stent placement and would be reported with a single code, regardless of whether one or multiple stents were placed to treat the common hepatic duct lesion. If a tumor is causing contiguous occlusion of both the common hepatic and common bile duct segments and stenting is performed across both segments, a single stent code is reported, regardless of whether one or multiple stents are placed to treat both ductal segments.

More than one stent code may be reported in the following circumstances:

- 1. Placement of side-by-side (double barrel) stents within a single bile duct
- 2. Placement of two or more stents into separate bile ducts through a single percutaneous access
- 3. Placement of stents through two or more percutaneous access sites (eg, placement of one stent through the interstices of another stent)

When more than one stent code is reported for a single session, modifier -59 is attached to the additionally reported stent codes, indicating that one of the above conditions was met.

If the stenting procedure is performed through an existing access and an externally accessible drain is left (eg, for safety purposes until hemobilia has cleared), biliary catheter exchange should not be separately reported with 47536. Instead, 47538 is reported and includes the catheter exchange performed during this type of procedure. If the stenting is performed through a new access and a drainage catheter is left in place, 47533 or 47534 (placement of external or placement of internal-external biliary drain) would not be separately reported. Instead, 47540 is reported, which includes placement of a new drainage catheter.

●47538

Placement of stent(s) into a bile duct, percutaneous, including diagnostic cholangiography, imaging guidance (eg, fluoroscopy and/or ultrasound), balloon dilation, catheter exchange(s) and catheter removal(s) when performed, and all associated radiologic supervision and interpretation, each stent; existing access

●47539

⊙ ● 47540

new access, without placement of separate biliary drainage catheter new access, with placement of separate biliary drainage catheter (eg, external or internal-external)

Rendezvous Procedure

Code 47541 describes the work of accessing the biliary tree de novo with the purpose of leaving a wire and/or catheter in the small bowel to facilitate retrograde cannulation of the biliary tree through endoscopy. This procedure is performed when disease at the ampulla or duodenum prevents the endoscopist from successfully cannulating the duct. This code is not to be reported when a wire is advanced through an existing biliary catheter or access to assist the endoscopist.

⊙ ● 47541

Placement of access through the biliary tree and into small bowel to assist with an endoscopic biliary procedure (eg, rendezvous procedures), percutaneous, including diagnostic cholangiography when performed, imaging guidance (eg, ultrasound and/or fluoroscopy), and all associated radiologic supervision and interpretation, new access

Balloon Dilation of Bile Ducts

There is a new code, 47542, for balloon dilation of bile ducts. This procedure has previously been reported with endoscopy codes, which will no longer be appropriate to use. This is an add-on code and includes only the work of balloon dilation of the biliary duct plus the imaging and radiologic supervision and interpretation specific to the balloon procedure. Access to the biliary tree, diagnostic cholangiography, and placement and/or exchange of catheters are not included in code 47542 and may be separately reported as the base code for the balloon procedure. Moderate sedation for the balloon procedure is included in 47542.

Balloon dilation is reported once for all ballooning performed in a single duct. If more than one duct is dilated during the procedure, 47542 with modifier -59, may be reported once to describe all ballooning performed in all additional ducts during that procedure. Balloon dilation is included in the work of the biliary stent codes 47538 to 47540, and 47542 should not be reported with those codes. If a balloon is used to remove calculi from ducts, 47544 should be used to report that procedure (47542 should not be reported).

⊙+**●**47542

Balloon dilation of biliary duct(s) or of ampulla (sphincteroplasty), percutaneous, including imaging guidance (eg, fluoroscopy), and all associated radiologic supervision and interpretation, each duct

Biopsy of Bile Ducts

The new code for biliary duct biopsy is 47543. It is specific for percutaneous endoluminal biopsy. The endoscopic codes previously used to report this service should no longer be reported for percutaneous biopsy of bile ducts. This code is an add-on code and includes the service of biopsy(ies) of the bile duct(s) by any endoluminal method plus all imaging and radiologic supervision and interpretation to do the biopsy(ies). The base codes for 47543 (ie, 47531, 47532, 47533, 47534, 47535, 47536, 47537, 47538, 47539, 47540) include access, diagnostic cholangiography, and catheter placement and/or exchange. Code 47543 includes moderate sedation for the biopsy portion of the procedure. Code 47543 is reported once per procedure, regardless of how many samples or how many lesions are biopsied.

⊙+**●**47543 Endoluminal biopsy(ies) of biliary tree, percutaneous, any method(s) (eg, brush, forceps, and/or needle), including imaging guidance (eg, fluoroscopy), and all associated radiologic supervision and interpretation, single or multiple

Biliary Stone Removal

The new code for removal of calculi from biliary ducts is 47544, which replaces the existing codes to report this percutaneous service. Code 47544 bundles the procedure of stone removal with imaging and radiologic supervision and interpretation for the stone removal. It is an add-on and does not include access to the biliary tree, diagnostic cholangiography, and catheter placement/exchange. These portions of the service should be reported with the appropriate primary (base) code (ie, 47531, 47532, 47533, 47534, 47535, 47536, 47537, 47538, 47539, 47540).

Code 47544 should be reported when stones are intentionally removed, requiring manipulation and/ or engagement of the stone(s) for removal. Incidental removal of stones (eg, stones or solid debris passing out or falling out of bile duct after ductal dilation or stent placement) would not be reported with 47544. Code 47544 is not reported for removal of biliary sludge.

⊙+**●**47544 Removal of calculi/debris from biliary duct(s) and/or gallbladder, percutaneous, including destruction of calculi by any method (eg, mechanical, electrohydraulic, lithotripsy) when performed, imaging guidance (eg, fluoroscopy), and all associated radiologic supervision and interpretation

PERCUTANEOUS IMAGE-GUIDED SCLEROTHERAPY OF FLUID COLLECTION

A new code describing percutaneous sclerotherapy of fluid collections, 49185, has been added for CPT 2016. This code includes the services of diagnostic study of fluid collection, instillation of sclerosant into the collection, dwell time for sclerosant, removal of the sclerosant, and all imaging required to perform sclerosis. It does not include access of the fluid collection or placement/replacement of catheter into the fluid collection, which may be separately reported. Moderate sedation is also not included in 49185. Code 49185 is reported once per day for each fluid collection separately treated with sclerotherapy. It is reported once per day for multiple fluid collections that are sclerosed through a single catheter and is also reported once per day for a single fluid collection treated with sclerotherapy through multiple catheters/accesses.

This code is intended for use when treating fluid collections such as lymphocele, renal cyst, or seromas with various sclerosing agents such as Betadine, absolute ethanol, or doxycycline. It should not be reported for sclerotherapy in veins, lymphatic or vascular malformations, or pleurodesis.

49185

Sclerotherapy of a fluid collection (eg, lymphocele, cyst, or seroma), percutaneous, including contrast injection(s), sclerosant injection(s), diagnostic study, imaging guidance (eg, ultrasound, fluoroscopy) and radiologic supervision and interpretation when performed

Katharine L. Krol, MD, FSIR, FACR, is an interventional radiologist and has recently retired from active clinical practice. She has stated that she has no financial interests related to this topic.

CONTACT US

If you have any questions or topics you would like Dr. Krol to address in a future column, please contact us at evteditorial@bmctoday.com.