

# Radiology Documentation Best Practices

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# Agenda

- Why is Documentation Essential?
- The Radiology Report
- Documentation Best Practices by Modality
- Documentation Problem Areas
- Strategies for Improvement

# Resources

- AMA
- CMS
- ACR



# Why is Documentation Essential?



# Why is Documentation Essential?

- Communication
- Utilization:
  - Patient care
  - Coding & billing
    - Reimbursement
    - Medically necessary
    - Quality
  - Compliance/Legal
- Providers must consider the audience

# Essential for Patient Care

- Patient Care
  - Requires a pertinent medical history to provide informed care
  - Definite interpretation and opinion of the results of imaging exam or procedure
  - Contributes to continuity of care and establishing the entire clinical picture for the patient
  - Should answer a clinical question



# Essential for Coding & Billing

- Coding & Billing
  - Key components of the report, and specific exam criteria, are required for proper CPT code selection and appropriate reimbursement
  - Documentation of complete and pertinent history as well as key findings correlate to accurate ICD-10 coding, which contributes to supporting the medical necessity of a study
  - Quality Payment Program

# Essential for Compliance

- Legal Source Document
- Malpractice/Legal Considerations
  - Never alter the report with information that is not deemed accurate at the time of service
  - Authentication of reports
  - “Hedging” statements



# The Radiology Report



# THE RADIOLOGY REPORT

- Report Format:
  - Report Title/Header
  - Clinical History
  - Technique
  - Findings
  - Impression

ACR Reference:

<https://www.acr.org/-/media/ACR/Files/Practice-Parameters/CommunicationDiag.pdf>

# BEST PRACTICES BY MODALITY

- Diagnostic Imaging Modalities
  - Diagnostic X-Ray
  - Women's Imaging (Mammo/DEXA)
  - Ultrasound
  - Duplex
  - NIV Physiologic Studies
  - CT/MRI
  - CTA
  - Nuclear Medicine

# Modality Must-Haves

## Diagnostic X-Ray

Anatomical Site

Number of Views

Laterality

## Mammography

Screening or  
Diagnostic  
(Mammo)

Tomosynthesis

Unilateral/Bilateral

## DEXA

Axial or  
Appendicular

Vertebral Fracture  
Assessment

# Modality Must-Haves

## Ultrasound

Limited/Complete  
Criteria

Reason for  
Nonvisualization

Laterality

## Duplex

Gray-Scale

Spectral/Waveform

Color Flow

Laterality

## NIV/Physiologic Studies

ABI plus 1 of:

- Waveforms
- Transcutaneous O2 Measurement
- Volume Plethysmography

Number of Levels

Laterality

# Modality Must-Haves

## CT & MRI

Contrast Administration

Contiguous Sites

## CTA

3D Technique

Vascular Findings

## Nuclear Medicine

Radiopharmaceutical

Limited/Whole Body

Planar/SPECT

Single/Multiple



# Documentation Problem Areas

- Ultrasound
  - General
    - Limited/Complete
    - Nonvisualization
  - OB Ultrasound <14wks
  - Breast US
  - Extremity US
- Duplex Studies
- CTA
- PET

# Nonvisualization-Ultrasound

- In order to report a complete ultrasound code, ALL of the required elements must be documented in the report or the reason given that a required element could not be visualized.
- Potential reasons for nonvisualization
- If the report does not describe the required elements or give a reason for nonvisualization, then a limited study must be reported.

# Sample Reports

- Sample #1-Not enough support for complete study-does not document the reason for nonvisualization

*PROCEDURE: US NON OB TRANSVAGINAL*

*CLINICAL INFORMATION: Post-menopausal bleeding. One episode of postmenopausal bleeding approximately one year ago.*

*TECHNIQUE: Multiplanar sonographic images of the pelvis via transvaginal approach.*

*FINDINGS: The uterus is normal in appearance without focal lesion identified. The endometrial stripe measures 4 mm in thickness. The right ovary is normal in size with some internal vascularity. The left ovary is not definitely visualized. No free fluid is identified.*

*LMP-approx 1 yr ago*

*Uterus - 6.1 x 3.8 x 4.2 cm*

*Endometrium - 0.4 cm*

*Right Ovary - 1.5 x 1.9 x 1.4 cm*

*Left Ovary - not visualized*

*IMPRESSION:*

*Left ovary not visualized. Otherwise, unremarkable pelvic ultrasound.*

# Sample Reports

- Sample #2-Supports a complete study-reason for nonvisualization is documented

*Indication: Abdominal Pain*

*COMPLETE ABDOMINAL ULTRASOUND*

*Technique: High resolution gray-scale sonographic evaluation of the abdomen was performed.*

*Findings: The IVC is unremarkable in appearance. Atherosclerotic disease is noted in the aorta without evidence of aneurysmal dilation. The liver appears normal in appearance. Pancreas is slightly obscured by overlying bowel gas distally but is otherwise grossly unremarkable. Right kidney measures 10.3 x 4.5 cm and the left kidney is surgically absent.*

*Gallbladder wall is thick in appearance possibly in part due to incomplete distention. There is a 4.2 cm echogenic*

*focus seen along the proximal gallbladder near the gallbladder neck which may be an adherent stone or polyp. Gallbladder wall measures 3.4 cm. No pericholecystic fluid is noted. Common bile duct measures 16 mm. The spleen is unremarkable in appearance. No free fluid is noted.*

*Impression: Gallbladder wall is thickened and polyps are noted.*

# OB Ultrasound <14 weeks

- The following must be documented for an OB US<14 weeks:
  - Number of gestational sacs and fetuses
  - Gestational sac/fetal measurements appropriate for gestation
  - Survey of visible fetal and *placental anatomic structure*
  - Qualitative *assessment of amniotic fluid volume*/gestational sac shape
  - Examination of the maternal uterus and adnexa
- If the above are not documented, it is most appropriate to code as a limited OB US.

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## Reference...

- When the pregnancy is in the first trimester (less than 14 weeks), the coder should remember that the required elements for CPT® code 76801 will be those that are "appropriate for gestation" and "visible." If any of the elements listed in the CPT code book are not able to be measured or are not visible, then the report should document that information in order to assign 76801. If any of the elements are not documented, the limited OB ultrasound study should be assigned (76815).<sup>2</sup> Among the required elements, "qualitative assessment of amniotic fluid volume" refers to the radiologist's statement, based on his or her experience and knowledge, that the volume is adequate or inadequate.
- It is appropriate to code for the complete OB ultrasound study (76801) even though a survey of the placental anatomic structure was not performed. However, the radiologist must note in his dictation that a survey of placental anatomic structure could not be performed because of gestational age. As noted in the CPT 2005 code book introductory notes prior to the diagnostic ultrasound codes: "For those anatomic regions that have 'complete' and 'limited' ultrasound codes, note the elements that comprise a 'complete' exam. The report should contain a description of these elements or the reason that an element could not be visualized (e.g., obscured by bowel gas, surgically absent, etc.)."

# Sample Reports

- Sample #1-Not enough support for OB US <14 weeks

*Exam: US OB EVAL 1ST TRIMESTER*

*Technique: Obstetrical ultrasound*

*Indication: N/V abd pain. 7 weeks preg. No prior Us.*

*Findings: There is a single normally-shaped gestational sac containing a single live intra-uterine gestation with crown-rump length of 1.3 cm.*

*The estimated gestational age based on today`s ultrasound is 7 weeks 3 days, with an EDD of 8/19/2021.*

*The fetal heart rate is identified at 164 bpm.*

*The right and left ovaries are unremarkable.*

*IMPRESSION:*

*Single live intrauterine gestation, with biometry as above.*

# Sample Reports

- Sample #2-Supports OB US <14 weeks; All criteria and reason for nonvisualization documented

*History: Five weeks pregnant. Pelvic pain.*

*Exam: Ultrasound Obstetrical Less than 14 Weeks, Transabdominal*

*Technique: Real time transabdominal OB US, < 14 weeks*

*Findings: A single, normal shaped gestational sac is present in the uterus.*

*Fetal pole is not identified in the gestational sac. A probable yolk sac is visualized within the gestational sac. Gestational sac measures a 1.16 cm which corresponds to an estimated gestational age of five weeks 2 days Amniotic fluid is appropriate for this estimated gestational age.*

*Placenta cannot be definitively identified at this estimated gestational age. The uterus is otherwise normal, measuring 7.27 cm. The right ovary measures 3.47 cm. No dominant cysts or masses. The left ovary measures 3.01 cm. No dominant cysts or masses. Trace free fluid in the cul de sac.*

*Impression:*

*Single normal-appearing gestational sac is present within the uterus without fetal pole identified.*

*By gestational sac size, the estimated gestational age is five weeks two days.*

*The trace free fluid may be physiologic, no adnexal masses to suggest ectopic gestation.*



# Duplex Studies

- Duplex scans require documentation of the following:
  - B-mode/2D gray scale imaging of vascular structures  
AND
  - Doppler spectral analysis (waveforms)
  - Color Flow
- Per the AMA and ACR, if the above are not documented, it is most appropriate to code as a nonvascular ultrasound of the same body site.

# Per the ACR Nomenclature Committee,

Synonymous terms for the spectral analysis are:

- Velocity
- Waveform/Waveform analysis
- Phasicity
- Peak systolic velocity
- Acceleration rate
- Pulse
- Mono, Bi, or Triphasic flow
- Bandwidth broadening
- Spectral Doppler
- Spectral broadening
- Resistive index
- Augmentation Waves

# Sample Reports

- Sample #1-Missing supporting documentation for Duplex

*US LE Venous Duplex Left:*

*HISTORY: Leg pain*

*Comparison: None*

*TECHNIQUE: Left lower extremity venous Doppler ultrasound study was performed.*

*FINDINGS: The left common femoral, femoral, popliteal, posterior tibial, anterior tibial and peroneal veins are visualized. Normal flow with augmentation and compressibilities are demonstrated. Left greater saphenous vein is patent.*

*IMPRESSION:*

*1. No evidence of deep venous thrombosis is seen.*

# Sample Reports

- Sample #2-Supporting documentation for Duplex

*EXAM: US Lower Ext Vein Duplex Rt*

*CLINICAL INDICATION: Right leg pain and swelling*

*TECHNIQUE: Venous duplex evaluation performed using 4 MHz transducer. Sagittal and axial gray scale and color Doppler images, including compression images, obtained of the right common femoral, femoral, popliteal, posterior tibial veins. Spectral wave forms also obtained.*

*FINDINGS: Color Doppler and gray scale imaging of the right lower extremity deep venous structures demonstrate no evidence of intraluminal thrombus. Normal compressibility of all deep venous segments. Normal phasic spectral wave forms, which demonstrate normal augmentation response and no evidence of venous reflux.*

*IMPRESSION: 1. Negative for right lower extremity deep venous thrombosis.*

# Duplex with Non-Vascular US

- Both must be:
  - Ordered
  - Medically Necessary
  - Diagnostic Study
- Not to be coded for a “quick look”
- Recommend dictating a separate title/paragraph

# Sample Reports

- Sample #1-Not enough to support add'l Duplex

*PROCEDURE: US OB TRANSVAGINAL, US DUPLEX ABD PEL RETRO SCROT COMPLETE*

*CLINICAL INFORMATION: Pain, rule out ectopic vs ovarian torsion.*

*TECHNIQUE: Transvaginal sonographic images were obtained of the fetus and pelvic structures.*

*FINDINGS: LMP: 02.25.2021 G 1 P 0 A 0*

*Uterus - 7.81 x 4.26 x 4.25 cm Endometrial Thickness - / cm FHR - / bpm*

*Mean Gestational Sac Diameter . 1.15 cm . 5 weeks 6 days*

*Yolk Sac -0.29 cm*

*AUA -5 weeks 6 days . . EDD 11.28.2021*

*Gestational Age (LMP) -5 weeks 2 days EDD 12.02.2021*

*Right Ovary -3.20 x 2.26 x 1.86 cm*

*There is a single live intrauterine gestation. The gestational sac diameter measures 1.15 cm which corresponds to a gestational age of 5 weeks and 6 days. EDD of 11/28/2021*

*The right ovary is of normal size. There are normal small follicles. There is normal color flow. There is no adnexal mass.*

*The left ovary is of normal size. There is a hyperechoic area in the left ovary measuring 1.8 x 1.9 x 2 cm in size with increased surrounding flow..*

*IMPRESSION:*

*1. Single live intrauterine gestational sac with gestational sac diameter of 1.15 cm which corresponds to gestational age of 5 weeks and 6 days. EDD of 11/28/2021.*

*2. Hyperechoic area in the left ovary measures 1.8 x 1.9 x 2 cm in size with increased surrounding flow.*

*3. Otherwise negative ultrasound scan of the pelvis.*

# Sample Reports

## • Sample #2-Supports add'l Duplex

### *US PELVIS WITH TRANSVAG AND LTD DOPPLER*

*Clinical: ABDOMINAL PAIN, LLQ, hx ovarian cyst; RO ovarian torsion*

*Findings: Transabdominal and transvaginal views of the pelvis were performed. Duplex Doppler with imaging, color flow and spectral waveform analysis to evaluate vascular flow to the ovaries. Transvaginal views were performed to better evaluate the uterus and adnexa.*

*Uterus measures 7.7 cm length. Retroverted. Normal configuration.*

*Endometrium is not thickened. Relative thickening in the fundus with hyperechoic focus with vascularity.*

*There is a 3.4 x 2.2 x 2.5 cm simple cyst left ovary. The ovaries otherwise appear unremarkable with a few follicles.*

*Vascular flow demonstrated in each ovary. No findings to suggest ovarian torsion.*

*No free fluid identified.*

*IMPRESSION: 1. Focal endometrial thickening in the fundus with vascularity possible polyp.*

*2. Left ovarian 3.4 cm simple cyst.*

*3. Please note that ectopic pregnancy is not excluded by this study.*

# Breast Ultrasound

- For a complete study, the report must document:
  - All four quadrants of the breast
  - Retroareolar region
  - Any demonstrated abnormality



# Sample Reports

- Sample #1-Does not support a complete breast US

## *COMPLETE US BREAST BILATERAL*

*HISTORY: Abnormal mammogram Bilateral Diagnostic*

*TECHNIQUE: Targeted ultrasound examination of the both breasts.*

*Left breast ultrasound: No abnormalities detected.*

*Right breast ultrasound: Slightly prominent intramammary lymph node at 10:00, 13 cm from nipple measuring 2.1 x 1.2 x 0.7 cm demonstrates a preserved fatty hila and nonthickened cortex. No definite mass corresponding to the finding.*

# Sample Reports

- Sample #2-Supports a complete breast US

*EXAM: US BREAST RIGHT COMPLETE*

*TECHNIQUE: Gray scale breast imaging of the real time examination were reviewed. All four quadrants were imaged including the retroareolar region and axilla.*

*HISTORY: Right breast cysts with prior right breast cyst aspiration*

*FINDINGS: There are numerous simple cysts, some new, some unchanged and others gone when compared to the prior study. The largest measures 9 mm in the 12 o'clock position. There are no solid masses seen. The axilla appears benign.*

*IMPRESSION: Benign right breast ultrasound.*

# Extremity Ultrasound

- For a complete study, the report must document:
  - Joint space (e.g., effusion)
  - Peri-articular soft tissue structures that surround the joint
  - Muscles
  - Tendons

# Sample Reports

- Sample #1-Does not support a complete extremity US

*Procedure Note:*

*Ultrasound of the biceps:*

*HISTORY: Trauma*

*FINDINGS: Scanning over the palpable area a thickened hypoechoic structure is present which elongates and is surrounded by fluid. Finding consistent with disruption of the biceps tendon.*

*IMPRESSION: Findings consistent with disruption of the biceps tendon. If further evaluation is warranted an MRI should be performed .*

# Sample Reports

- Sample #2- Supports complete extremity US

*Indication: Ankle pain, swelling.*

*COMPLETE ANKLE ULTRASOUND*

*Technique: High resolution gray-scale sonographic evaluation of the ankle joint was performed.*

*Findings:*

*Ultrasound examination of the ankle joint including targeted examination of the muscles, tendons, and soft tissue surrounding the ankle revealed mild soft tissue swelling.*

*There is no evidence of a mass or nodule.*

*Impression: Mild effusion/swelling of the ankle. No solid mass identified.*

# CTA

- CTA requires documentation of 3-D technique:
  - Maximum Intensity Pixel (MIP)
  - Maximum Intensity Projection (MIP)
  - Volume Rendered Images
  - Surface Shaded Rendering
  - 3D Reconstructed Images

# Sample Reports

- Sample #1-Not enough support for CTA-missing 3D documentation

*EXAM: CTA CHEST W WO CONTRAST*

*Reason for Exam: SOB*

*CT ANGIOGRAPHY CHEST USING CONTRAST.:*

*Findings: There is good opacification of the main, right and left pulmonary arteries.*

*No CT evidence of pulmonary embolism. Normal caliber thoracic aorta and great vessels.*

*Borderline cardiomegaly. Coronary artery calcifications. No pericardial effusion. Shotty mediastinal lymph nodes likely reactive Mosaic attenuation reflecting small airway disease.*

*Mild dependent atelectasis. Bronchial wall thickening reflecting bronchitis. No bronchiectasis.*

*No pneumothorax, pleural effusions, pleural plaques or calcifications. Hepatic steatosis. No bony destructive processes demonstrated.*

*IMPRESSION:*

*1. No CT evidence of pulmonary embolus.*

*2. Mosaic attenuation reflecting small airway disease. Centrilobular emphysema. Bronchial wall thickening reflecting bronchiolitis. Dependent atelectasis versus small infiltrates possibly pneumonic.*

*3. Hepatic steatosis. Hepatomegaly*

# Sample Reports

- Sample #2-Documentation supports a CTA

## *CT ANGIOGRAM OF THE CHEST WITH 3D RECONSTRUCTIONS*

*History: Chest pain, right-sided numbness.*

*Technique: CT angiogram of the chest was obtained with & without IV contrast. 3D reconstructed images were obtained. 100ML of Omnipaque was administered intravenously for the contrast portion of the exam.*

*Findings: There are no pulmonary artery filling defects. Mild lung base atelectasis. Azygous fissure is incidentally noted. Normal heart size. No pleural effusions or lymphadenopathy. A 1.2 cm low-attenuation nodule in the left lobe of the thyroid gland is present.*

### *IMPRESSION:*

- 1. No acute findings.*
- 2. Indeterminate left thyroid nodule. Further assessment with a thyroid ultrasound should be considered.*



# PET

- The following should be documented for PET scans:
  - Thorough clinical history
  - Initial or subsequent staging
  - PET or PET-CT
  - Body areas imaged with findings
    - Limited area
    - Skull base to mid-thigh
    - Whole body

# Sample Reports

- Sample #1-Missing documentation to support a whole body exam

## *PET/CT WHOLE BODY*

*INDICATION: Exposure to asbestos. Calcified pleural plaques by outside imaging.*

*TECHNIQUE: PET imaging was obtained from the skull base through the mid thigh 60 minutes following IV administration of 10.82 mCi of F-18 fluorodeoxyglucose (FDG). 400 mL oral contrast was given. Noncontrast CT imaging was performed for attenuation correction and localization purposes only. These images do not constitute a diagnostic-quality CT examination and were not used to diagnose disease independently of the PET images. The blood glucose level was 156 mg/dL at the time of FDG administration.*

*FINDINGS: HEAD AND NECK: Minimally FDG avid subparotid lymph nodes bilaterally. No intense FDG avidity seen in the neck or deep face. CHEST: Diffuse calcified pleural plaques bilaterally without FDG avidity. No soft tissue component or FDG avid mediastinal or hilar adenopathy/ Moderate cardiomegaly with diffuse coronary artery calcifications present. Left shoulder prosthesis. ABDOMEN: No FDG avid foci seen.*

*IMPRESSION: 1. Diffuse calcified pleural plaques bilaterally without FDG avidity or soft tissue component. 2. Mild FDG avid lymph nodes in the neck in a subparietal location likely reactive in nature. 3. No suspicious FDG uptake seen in the neck, chest, abdomen or pelvis. 4. Left shoulder prosthesis, right hip prosthesis, cholecystectomy clips and Foley catheter noted. Neurostimulator electrodes as described. Prior posterior metallic fusion L3-4.*

# Sample Reports

- Sample #2-Documentation supports a whole body exam

*EXAM: PET/CT WHOLE BODY*

*HISTORY: Patient presents for restaging of multiple myeloma.*

*TECHNIQUE: PET-CT images were obtained from the vertex of the scalp to the feet.*

*FINDINGS: Head and neck: Small cervical nodes are identified bilaterally without definite abnormal increased activity. Physiologic activity is noted within the head and neck. Thorax: No mediastinal, hilar or axillary adenopathy is identified. No noncalcified pulmonary nodules are identified. Physiologic activity is noted within the thorax. Abdomen and pelvis: No hepatic, splenic or adrenal masses are identified. Physiologic activity is noted within the abdomen and pelvis. No enlarged adenopathy is noted. Osseous structures: Mottled lucencies are noted throughout the calvarium with a moderate size area of lucency along the anterior frontal calvarium. No intense calvarial activity is identified. Degenerative findings are noted within the spine without focal discrete lesions noted. This mild heterogeneous density. There is a lucent lesion identified within the right ilium measuring 2.1 x 1.8 cm without definite abnormal increased activity (maximum SUV of 2). Additional areas of lucency identified along the posterior ilium on the right and left ilium in the supra-acetabular region. No abnormal increased activity is identified. There is internal fixation of the left femur with heterogeneous density noted along the femoral diaphysis with areas of lucency noted anterolaterally without abnormal increased activity. There is some callus formation consistent with a healed fracture. There is lucency within the distal left first metatarsal without abnormal activity. Other: Review of CT images demonstrate no other acute findings. IMPRESSION: Small cervical nodes identified without abnormal activity, likely within normal limits. Areas of lucency identified involving the calvarium and pelvis and left lower extremity without intense activity which may represent treated disease. No intense areas of increased activity noted to suggest metabolically active disease.*

## Strategies for Improvement



# Q&A



# Thank you!

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