

ULTRASOUND EVALUATION ATTRIBUTES

OBSTETRICAL ULTRASOUND EXAMINATIONS

First Trimester	Second* & Third Trimester
<ul style="list-style-type: none"> • Gestational sac measurement/CRL/YS • Cardiac motion • Fetal number • Uterus • Adnexa 	<ul style="list-style-type: none"> • Fetal number • Presentation/ position • Amniotic fluid documentation • Placenta <ul style="list-style-type: none"> • Location • Relation to internal cervical os • Fetal measurements <ul style="list-style-type: none"> • Biparietal diameter/head circumference • Femur length • Abdominal circumference/diameter • Est. fetal weight • Fetal anatomy <ul style="list-style-type: none"> • Cerebral ventricles • Cerebellum <i>cisterna magna</i> • 4 chamber view of heart • Spine • Stomach • Renal region • Umbilical cord insertion site • Urinary bladder

* For ACR purposes, second trimester exams submitted should be between 18 and 26 weeks.

GYNECOLOGICAL ULTRASOUND EXAMINATIONS

Female Pelvis
<p>Uterus</p> <ul style="list-style-type: none"> Size, Shape, Orientation Endometrium Myometrium Cervix/vagina <p>Adnexa</p> <ul style="list-style-type: none"> Ovaries: Siza & Shape Ovary tissue texture <p>Cul-De-Sac</p>

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GENERAL ULTRASOUND EXAMINATIONS

Complete Upper Abdominal Exam
<p>Liver</p> <ul style="list-style-type: none"> Complete visualization of liver Tissue texture Vascular/ductal anatomy <ul style="list-style-type: none"> • Gall Bladder and Biliary Duct <ul style="list-style-type: none"> • Complete visualization of gall bladder in multiple views • Size of extra hepatic duct • Pancreas <ul style="list-style-type: none"> • Complete visualization of pancreatic bed in multiple views • Tissue texture • Spleen <ul style="list-style-type: none"> • Complete visualization of splenic bed & region in multiple views • Tissue texture <p>Kidneys</p> <ul style="list-style-type: none"> Representative views Renal length <ul style="list-style-type: none"> • Doppler US utilized when appropriate

Female Pelvis	Renal/Urinary Tract
<ul style="list-style-type: none"> • Uterus <ul style="list-style-type: none"> Size, shape, orientation Endometrium Myometrium Cervix/vagina • Adnexa <ul style="list-style-type: none"> • Ovaries: Size & shape • Ovary tissue texture • Cul-de-Sac 	<ul style="list-style-type: none"> • Kidneys <ul style="list-style-type: none"> • Complete visualization in multiple views • Measurement • Tissue texture • Urinary bladder & adjacent structures <ul style="list-style-type: none"> Images of bladder lumen and bladder wall <p>Doppler US utilized when appropriate</p>

Small Parts	
Scrotum	Thyroid/Parathyroid
Complete evaluation of testis Tissue texture Epididymis evaluation & other peritesticular structures Doppler when indicated	<ul style="list-style-type: none"> • Complete evaluation in multiple views • Tissue texture

Transrectal/Prostate	Pediatric Neurosonology
Complete evaluation in 2 planes <ul style="list-style-type: none"> • Size • Tissue texture • Evaluation of periprostatic structures 	<ul style="list-style-type: none"> • Complete evaluation in at least 2 planes • Tissue texture

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VASCULAR ULTRASOUND EXAMINATIONS

Peripheral Arterial Ultrasound	
Arterial Occlusive Disease	Bypass Graft
<ul style="list-style-type: none"> • Full length of arteries sampled • Spectral doppler recordings obtained • Proper doppler angle/angle adjustment utilized 	<ul style="list-style-type: none"> • Full length of graft sampled • Spectral doppler recordings obtained • Proper doppler angle/angle adjustment utilized • Velocity documented in native arteries proximal and distal to graft • Velocities of proximal and distal anastomoses documented
Soft Tissue Abnormality	Abnormal Vascular Communication
<p>Perivascular region imaged with gray scale and color/duplex doppler</p> <ul style="list-style-type: none"> • Doppler waveforms documented from lesion and communicating channels (if visible) • Doppler images of adjacent arteries/veins documented 	<ul style="list-style-type: none"> • Color/spectral doppler images of vessels proximal and distal to area of abnormal communication documented • Color images of vascular communication provided
Thrombosis – lower extremities	Thrombosis- upper arms
<ul style="list-style-type: none"> • Complete evaluation of involved venous system with & without compression <ul style="list-style-type: none"> • Common femoral vein • Junction of common femoral vein with greater saphenous vein • Proximal, mid, and distal superficial femoral vein • Popliteal vein • Complete evaluation of involved venous system with doppler or color doppler <ul style="list-style-type: none"> • Common femoral vein • Junction of common femoral vein with greater saphenous vein • Proximal profunda • Proximal, mid, and distal superficial femoral vein • Popliteal vein • Respiratory & augmentation maneuvers with spectral doppler 	<ul style="list-style-type: none"> • Complete evaluation of involved venous system with color <ul style="list-style-type: none"> • Internal jugular • Subclavian • Axillary • Brachial (deep veins) • Venous compressibility evaluated (except for subclavian vein) • Adequate spectral analysis with or without color doppler

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Vein Mapping	Incompetence
<ul style="list-style-type: none"> • Complete evaluation of appropriate venous system including axial diameter: <ul style="list-style-type: none"> • Greater <u>or</u> lesser saphenous of leg <u>or</u> • Cephalic vein of upper arm <u>or</u> • Basilic vein of upper arm • Color doppler and/or spectral analysis and proper doppler angle 	<ul style="list-style-type: none"> • Complete evaluation of involved venous system with & without compression <ul style="list-style-type: none"> • Common femoral vein • Junction of common femoral vein with greater saphenous vein • Proximal, mid, and distal superficial femoral vein • Popliteal vein • Complete evaluation of involved venous system with doppler or color doppler <ul style="list-style-type: none"> • Common femoral vein • Junction of common femoral vein with greater saphenous vein • Proximal profunda • Proximal, mid, and distal superficial femoral vein • Popliteal vein • Respiratory & augmentation maneuvers with spectral doppler • Spectral analysis of flow with color doppler <ul style="list-style-type: none"> • Common femoral vein • Superficial femoral vein • Popliteal vein

CEREBROVASCULAR EXAMS

Bilateral Duplex Carotid Ultrasound
<ul style="list-style-type: none"> • Transverse images of carotid vessels: <ul style="list-style-type: none"> • Common carotid artery - proximal • Common carotid artery - distal • Bulb • Bifurcation • Longitudinal images of carotid vessels: <ul style="list-style-type: none"> • Common carotid artery - proximal • Common carotid artery - distal • Bulb • Internal carotid artery • External carotid artery

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- Angle adjusted spectral doppler evaluation:
 - Common carotid artery - proximal
 - Common carotid artery - distal
 - Bulb
 - Internal carotid artery- proximal
 - Internal carotid artery- mid and distal
 - External carotid artery
- Direction of vertebral flow documented

ABDOMINAL VASCULAR EXAMS

Vascular US of the Liver		
Liver Vasculature	Liver Transplantation	TIPS
<ul style="list-style-type: none"> • Survey of liver vasculature with gray scale images • Images of vascular anatomy <ul style="list-style-type: none"> • Main portal vein • 3 hepatic veins • Inferior vena cava • Spectral analysis with angle of insonation of 60° or less when appropriate: <ul style="list-style-type: none"> • Main portal vein (angle adjusted) • Hepatic artery • 3 hepatic veins • Inferior vena cava • Color or power doppler images for degree of patency: <ul style="list-style-type: none"> • Main portal vein • Hepatic artery • 3 hepatic veins 	<ul style="list-style-type: none"> • Survey of liver vasculature with gray scale images • Gray scale images of vascular anatomy <ul style="list-style-type: none"> • Main portal vein • Hepatic artery • 3 hepatic veins • Inferior vena cava • Spectral analysis with angle of insonation of 60° or less when appropriate: <ul style="list-style-type: none"> • Main portal vein (angle adjusted) • Hepatic artery • 3 hepatic veins • Inferior vena cava • Color or power doppler images for degree of patency: <ul style="list-style-type: none"> • Main portal vein • Hepatic artery • Hepatic veins 	<ul style="list-style-type: none"> • Survey of liver vasculature with gray scale images • Images of vascular anatomy <ul style="list-style-type: none"> • Main portal vein • Hepatic artery • 3 hepatic veins • Angle adjusted spectral doppler tracings of: <ul style="list-style-type: none"> • Main portal vein (angle adjusted) • Hepatic artery • 3 hepatic veins • Color or power doppler images for degree of patency: <ul style="list-style-type: none"> • Main portal vein • Hepatic artery • 3 hepatic veins • Color or power doppler images of flow within the shunt • Angle corrected velocity measurements obtained in shunt: <ul style="list-style-type: none"> • Proximal • Mid • Distal

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Renovascular Ultrasound		
Renal Artery Stenosis	Renal Vein Thrombosis	Renal Artery Thrombosis (renal transplants)
<ul style="list-style-type: none"> • Appropriate long and transverse images, both kidneys • Renal length recorded bilaterally • Extrarenal exam includes bilateral angle adjusted images of main renal artery and ostial, mid, and hilar area. • Proper Doppler angle applied • PSV documented for appropriate sites • RAR recorded bilat; illiac artery evaluated (transplants only) • Spectral images documented upper/lower pole bilat • Spectral images sufficiently large for interpretation • Early systolic peak & AI/AT documented (upper and lower pole) • Physician report appropriateness 	<ul style="list-style-type: none"> • Appropriate images obtained, both kidneys • Renal length documented bilaterally • Renal arteries evaluated with color Doppler • Renal veins evaluated with color Doppler • Adjacent IVC evaluated • Representative spectral Doppler images included (essential in transplants) • Physician report appropriateness 	<ul style="list-style-type: none"> • Appropriate images obtained • Renal length documented • Renal arteries evaluated with color Doppler • Renal veins evaluated with color Doppler • Comparison with adjacent, patent vessels documented • Representative spectral Doppler images included (essential in transplants) • Physician report appropriateness

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DEEP ABDOMINAL VASCULAR EXAMINATIONS

Aorta

- Transverse images with measurements:
 - Proximal
 - Mid
 - Distal
 - Bifurcation
- Longitudinal images with measurements:
 - Proximal
 - Mid
 - Distal
- Bifurcation transverse or longitudinal
- Color Doppler and/or spectral analysis of distal aorta with proper doppler angle
- Abnormalities documented
- Physician report appropriateness

Inferior Vena Cava

- Inferior Vena Cava and Draining Veins
 - Transverse images
 - Proximal
 - Mid
 - Distal
 - Bifurcation
 - Longitudinal images
 - Proximal
 - Mid
 - Distal
 - Bifurcation
 - Spectral analysis w/angle of insonation of 60 degrees or less when appropriate
 - Abnormalities documented
 - Physician report appropriateness (thrombus site, extent)

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