

National Coverage Determination
Procedure Code: 80162
Digoxin Therapeutic Drug Assay
CMS Policy Number: 190.24
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Description: A digoxin therapeutic drug assay is useful for diagnosis and prevention of digoxin toxicity, and/or prevention for under dosage of digoxin.

Indications:

Digoxin levels may be performed to monitor drug levels of individuals receiving digoxin therapy because the margin of safety between side effects and toxicity is narrow or because the blood level may not be high enough to achieve the desired clinical effect.

Clinical indications may include individuals on digoxin:

- With symptoms, signs or electrocardiogram (ECG) suggestive of digoxin toxicity
- Taking medications that influence absorption, bioavailability, distribution, and/or elimination of digoxin
- With impaired renal, hepatic, gastrointestinal, or thyroid function
- With pH and/or electrolyte abnormalities
- With unstable cardiovascular status, including myocarditis
- Requiring monitoring of patient compliance

Clinical indications may include individuals:

- Suspected of accidental or intended overdose
- Who have an acceptable cardiac diagnosis (as listed) and for whom an accurate history of use of digoxin is unobtainable

The value of obtaining regular serum digoxin levels is uncertain, but it may be reasonable to check levels once yearly after a steady state is achieved. In addition, it may be reasonable to check the level if:

- Heart failure status worsens
- Renal function deteriorates
- Additional medications are added that could affect the digoxin level
- Signs or symptoms of toxicity develop

Steady state will be reached in approximately 1 week in patients with normal renal function, although 2-3 weeks may be needed in patients with renal impairment. After changes in dosages or the addition of a medication that could affect the digoxin level, it is reasonable to check the digoxin level one week after the change or addition. Based on the clinical situation, in cases of digoxin toxicity, testing may need to be done more than once a week.

Digoxin is indicated for the treatment of patients with heart failure due to systolic dysfunction and for reduction of the ventricular response in patients with atrial fibrillation or flutter. Digoxin may also be indicated to treat other supraventricular arrhythmias, particularly with heart failure.

Limitations:

This test is not appropriate for patients on digitoxin or treated with digoxin FAB (fragment antigen binding) antibody.

To review all requirements of this policy, please see: [CMS NCD listing by Chapter](#)

Covered ICD-10 Codes.

ICD-10	Descriptor
A18.84	Tuberculosis of heart
E00.0	Congenital iodine-deficiency syndrome, neurological type
E00.1	Congenital iodine-deficiency syndrome, myxedematous type
E00.2	Congenital iodine-deficiency syndrome, mixed type
E00.9	Congenital iodine-deficiency syndrome, unspecified
E01.8	Oth iodine-deficiency related thyroid disord and allied cond
E02	Subclinical iodine-deficiency hypothyroidism
E03.0	Congenital hypothyroidism with diffuse goiter
E03.1	Congenital hypothyroidism without goiter
E03.2	Hypothyroidism due to meds and oth exogenous substances
E03.3	Postinfectious hypothyroidism
E03.5	Myxedema coma
E03.8	Other specified hypothyroidism
E03.9	Hypothyroidism, unspecified
E05.00	Thyrotoxicosis w diffuse goiter w/o thyrotoxic crisis
E05.01	Thyrotoxicosis w diffuse goiter w thyrotoxic crisis or storm
E05.10	Thyrotxcosis w toxic sing thyroid nodule w/o thyrotxc crisis
E05.11	Thyrotxcosis w toxic single thyroid nodule w thyrotxc crisis
E05.20	Thyrotxcosis w toxic multinod goiter w/o thyrotoxic crisis

E05.21	Thyrotxcosis w toxic multinodular goiter w thyrotoxic crisis
E05.30	Thyrotxcosis from ectopic thyroid tissue w/o thyrotxc crisis
E05.31	Thyrotxcosis from ectopic thyroid tissue w thyrotoxic crisis
E05.40	Thyrotoxicosis factitia without thyrotoxic crisis or storm
E05.41	Thyrotoxicosis factitia with thyrotoxic crisis or storm
E05.80	Other thyrotoxicosis without thyrotoxic crisis or storm
E05.81	Other thyrotoxicosis with thyrotoxic crisis or storm
E05.90	Thyrotoxicosis, unsp without thyrotoxic crisis or storm
E05.91	Thyrotoxicosis, unspecified with thyrotoxic crisis or storm
E06.0	Acute thyroiditis
E06.1	Subacute thyroiditis
E06.2	Chronic thyroiditis with transient thyrotoxicosis
E06.3	Autoimmune thyroiditis
E06.4	Drug-induced thyroiditis
E06.5	Other chronic thyroiditis
E06.9	Thyroiditis, unspecified
E20.1	Pseudohypoparathyroidism
E83.40	Disorders of magnesium metabolism, unspecified
E83.41	Hypermagnesemia
E83.42	Hypomagnesemia
E83.49	Other disorders of magnesium metabolism
E83.50	Unspecified disorder of calcium metabolism
E83.51	Hypocalcemia
E83.52	Hypercalcemia
E83.59	Other disorders of calcium metabolism
E83.81	Hungry bone syndrome
E86.0	Dehydration
E86.1	Hypovolemia
E86.9	Volume depletion, unspecified
E87.0	Hyperosmolality and hypernatremia
E87.1	Hypo-osmolality and hyponatremia
E87.2	Acidosis
E87.3	Alkalosis
E87.4	Mixed disorder of acid-base balance
E87.5	Hyperkalemia
E87.6	Hypokalemia
E87.70	Fluid overload, unspecified
E87.71	Transfusion associated circulatory overload
E87.79	Other fluid overload
E87.8	Oth disorders of electrolyte and fluid balance, NEC
E89.0	Postprocedural hypothyroidism
F05	Delirium due to known physiological condition

F51.5	Nightmare disorder
G44.1	Vascular headache, not elsewhere classified
G44.40	Drug-induced headache, NEC, not intractable
G44.41	Drug-induced headache, not elsewhere classified, intractable
H53.16	Psychophysical visual disturbances
H53.71	Glare sensitivity
H53.72	Impaired contrast sensitivity
H53.8	Other visual disturbances
H53.9	Unspecified visual disturbance
I08.1	Rheumatic disorders of both mitral and tricuspid valves
I08.2	Rheumatic disorders of both aortic and tricuspid valves
I08.3	Comb rheumatic disord of mitral, aortic and tricuspid valves
I08.8	Other rheumatic multiple valve diseases
I08.9	Rheumatic multiple valve disease, unspecified
I09.0	Rheumatic myocarditis
I09.1	Rheumatic diseases of endocardium, valve unspecified
I09.81	Rheumatic heart failure
I11.0	Hypertensive heart disease with heart failure
I12.0	Hyp chr kidney disease w stage 5 chr kidney disease or ESRD
I12.9	Hypertensive chronic kidney disease w stg 1-4/unsp chr kdny
I13.0	Hyp hrt & chr kdny dis w hrt fail and stg 1-4/unsp chr kdny
I13.10	Hyp hrt & chr kdny dis w/o hrt fail, w stg 1-4/unsp chr kdny
I13.11	Hyp hrt and chr kdny dis w/o hrt fail, w stg 5 chr kdny/ESRD
I13.2	Hyp hrt & chr kdny dis w hrt fail and w stg 5 chr kdny/ESRD
I20.0	Unstable angina
I20.1	Angina pectoris with documented spasm
I20.8	Other forms of angina pectoris
I20.9	Angina pectoris, unspecified
I21.01	STEMI involving left main coronary artery
I21.02	STEMI involving left anterior descending coronary artery
I21.09	STEMI involving oth coronary artery of anterior wall
I21.11	STEMI involving right coronary artery
I21.19	STEMI involving oth coronary artery of inferior wall
I21.21	STEMI involving left circumflex coronary artery
I21.29	STEMI involving oth sites
I21.3	ST elevation (STEMI) myocardial infarction of unsp site
I21.4	Non-ST elevation (NSTEMI) myocardial infarction
I22.0	Subsequent STEMI of anterior wall
I22.1	Subsequent STEMI of inferior wall
I22.2	Subsequent non-ST elevation (NSTEMI) myocardial infarction
I22.8	Subsequent STEMI of sites
I22.9	Subsequent STEMI of unsp site

I23.1	Atrial septal defect as current complication following AMI
I23.2	Ventricular septal defect as current comp following AMI
I23.4	Rupture of chord tendne as current comp following AMI
I23.5	Rupture of papillary muscle as current comp following AMI
I24.0	Acute coronary thrombosis not resulting in myocardial infrc
I24.1	Dressler's syndrome
I24.8	Other forms of acute ischemic heart disease
I24.9	Acute ischemic heart disease, unspecified
I25.10	Athscl heart disease of native coronary artery w/o ang pctrs
I25.110	Athscl heart disease of native cor art w unstable ang pctrs
I25.111	Athscl heart disease of native cor art w ang pctrs w spasm
I25.118	Athscl heart disease of native cor art w oth ang pctrs
I25.119	Athscl heart disease of native cor art w unsp ang pctrs
I25.700	Atherosclerosis of CABG, unsp, w unstable angina pectoris
I25.701	Athscl CABG, unsp, w angina pectoris w documented spasm
I25.708	Atherosclerosis of CABG, unsp, w oth angina pectoris
I25.709	Atherosclerosis of CABG, unsp, w unsp angina pectoris
I25.710	Athscl autologous vein CABG w unstable angina pectoris
I25.711	Athscl autologous vein CABG w ang pctrs w documented spasm
I25.718	Athscl autologous vein CABG w oth angina pectoris
I25.719	Athscl autologous vein CABG w unsp angina pectoris
I25.720	Athscl autologous artery CABG w unstable angina pectoris
I25.721	Athscl autologous artery CABG w ang pctrs w documented spasm
I25.728	Athscl autologous artery CABG w oth angina pectoris
I25.729	Athscl autologous artery CABG w unsp angina pectoris
I25.730	Athscl nonautologous biological CABG w unstable ang pctrs
I25.731	Athscl nonaut biological CABG w ang pctrs w documented spasm
I25.738	Athscl nonautologous biological CABG w oth angina pectoris
I25.739	Athscl nonautologous biological CABG w unsp angina pectoris
I25.750	Athscl native cor art of txplt heart w unstable angina
I25.751	Athscl native cor art of txplt heart w ang pctrs w spasm
I25.758	Athscl native cor art of transplanted heart w oth ang pctrs
I25.759	Athscl native cor art of transplanted heart w unsp ang pctrs
I25.760	Athscl bypass of cor art of txplt heart w unstable angina
I25.761	Athscl bypass of cor art of txplt heart w ang pctrs w spasm
I25.768	Athscl bypass of cor art of txplt heart w oth ang pctrs
I25.769	Athscl bypass of cor art of txplt heart w unsp ang pctrs
I25.790	Atherosclerosis of CABG w unstable angina pectoris
I25.791	Atherosclerosis of CABG w angina pectoris w documented spasm
I25.798	Atherosclerosis of CABG w oth angina pectoris
I25.799	Atherosclerosis of CABG w unsp angina pectoris
I25.84	Coronary atherosclerosis due to calcified coronary lesion

I27.83	Eisenmenger's syndrome
I40.0	Infective myocarditis
I40.1	Isolated myocarditis
I40.8	Other acute myocarditis
I40.9	Acute myocarditis, unspecified
I41	Myocarditis in diseases classified elsewhere
I42.0	Dilated cardiomyopathy
I42.1	Obstructive hypertrophic cardiomyopathy
I42.2	Other hypertrophic cardiomyopathy
I42.3	Endomyocardial (eosinophilic) disease
I42.4	Endocardial fibroelastosis
I42.5	Other restrictive cardiomyopathy
I42.6	Alcoholic cardiomyopathy
I42.7	Cardiomyopathy due to drug and external agent
I42.8	Other cardiomyopathies
I42.9	Cardiomyopathy, unspecified
I43	Cardiomyopathy in diseases classified elsewhere
I44.0	Atrioventricular block, first degree
I44.1	Atrioventricular block, second degree
I44.2	Atrioventricular block, complete
I44.30	Unspecified atrioventricular block
I44.39	Other atrioventricular block
I44.4	Left anterior fascicular block
I44.5	Left posterior fascicular block
I44.60	Unspecified fascicular block
I44.69	Other fascicular block
I44.7	Left bundle-branch block, unspecified
I45.0	Right fascicular block
I45.10	Unspecified right bundle-branch block
I45.19	Other right bundle-branch block
I45.2	Bifascicular block
I45.3	Trifascicular block
I45.4	Nonspecific intraventricular block
I45.5	Other specified heart block
I45.6	Pre-excitation syndrome
I45.81	Long QT syndrome
I45.89	Other specified conduction disorders
I45.9	Conduction disorder, unspecified
I46.2	Cardiac arrest due to underlying cardiac condition
I46.8	Cardiac arrest due to other underlying condition
I46.9	Cardiac arrest, cause unspecified
I47.0	Re-entry ventricular arrhythmia

I47.1	Supraventricular tachycardia
I47.2	Ventricular tachycardia
I47.9	Paroxysmal tachycardia, unspecified
I48.0	Paroxysmal atrial fibrillation
I48.11	Longstanding persistent atrial fibrillation
I48.19	Other persistent atrial fibrillation
I48.20	Chronic atrial fibrillation, unspecified
I48.21	Permanent atrial fibrillation
I48.3	Typical atrial flutter
I48.4	Atypical atrial flutter
I48.91	Unspecified atrial fibrillation
I48.92	Unspecified atrial flutter
I49.01	Ventricular fibrillation
I49.02	Ventricular flutter
I49.1	Atrial premature depolarization
I49.2	Junctional premature depolarization
I49.3	Ventricular premature depolarization
I49.40	Unspecified premature depolarization
I49.49	Other premature depolarization
I49.5	Sick sinus syndrome
I49.8	Other specified cardiac arrhythmias
I49.9	Cardiac arrhythmia, unspecified
I50.1	Left ventricular failure, unspecified
I50.20	Unspecified systolic (congestive) heart failure
I50.21	Acute systolic (congestive) heart failure
I50.22	Chronic systolic (congestive) heart failure
I50.23	Acute on chronic systolic (congestive) heart failure
I50.30	Unspecified diastolic (congestive) heart failure
I50.31	Acute diastolic (congestive) heart failure
I50.32	Chronic diastolic (congestive) heart failure
I50.33	Acute on chronic diastolic (congestive) heart failure
I50.40	Unsp combined systolic and diastolic (congestive) hrt fail
I50.41	Acute combined systolic and diastolic (congestive) hrt fail
I50.42	Chronic combined systolic and diastolic hrt fail
I50.43	Acute on chronic combined systolic and diastolic hrt fail
I50.814	Right heart failure due to left heart failure
I50.82	Biventricular heart failure
I50.84	End stage heart failure
I50.89	Other heart failure
I50.9	Heart failure, unspecified
I51.0	Cardiac septal defect, acquired
I51.1	Rupture of chordae tendineae, not elsewhere classified

I51.2	Rupture of papillary muscle, not elsewhere classified
I74.01	Saddle embolus of abdominal aorta
I74.09	Other arterial embolism and thrombosis of abdominal aorta
I74.10	Embolism and thrombosis of unspecified parts of aorta
I74.19	Embolism and thrombosis of other parts of aorta
I97.0	Postcardiotomy syndrome
I97.110	Postproc cardiac insufficiency following cardiac surgery
I97.111	Postprocedural cardiac insufficiency following other surgery
I97.120	Postprocedural cardiac arrest following cardiac surgery
I97.121	Postprocedural cardiac arrest following other surgery
I97.130	Postprocedural heart failure following cardiac surgery
I97.131	Postprocedural heart failure following other surgery
I97.190	Oth postproc cardiac functn disturb fol cardiac surgery
I97.191	Oth postproc cardiac functn disturb following oth surgery
J81.1	Chronic pulmonary edema
K52.21	Food protein-induced enterocolitis syndrome
K52.22	Food protein-induced enteropathy
K52.29	Other allergic and dietetic gastroenteritis and colitis
K52.89	Other specified noninfective gastroenteritis and colitis
K76.81	Hepatopulmonary syndrome
K90.9	Intestinal malabsorption, unspecified
N17.0	Acute kidney failure with tubular necrosis
N17.1	Acute kidney failure with acute cortical necrosis
N17.2	Acute kidney failure with medullary necrosis
N17.8	Other acute kidney failure
N17.9	Acute kidney failure, unspecified
N18.1	Chronic kidney disease, stage 1
N18.2	Chronic kidney disease, stage 2 (mild)
N18.3	Chronic kidney disease, stage 3 (moderate)
N18.4	Chronic kidney disease, stage 4 (severe)
N18.5	Chronic kidney disease, stage 5
N18.6	End stage renal disease
N18.9	Chronic kidney disease, unspecified
N19	Unspecified kidney failure
N25.0	Renal osteodystrophy
N25.1	Nephrogenic diabetes insipidus
N25.81	Secondary hyperparathyroidism of renal origin
N25.89	Oth disorders resulting from impaired renal tubular function
N25.9	Disorder rslt from impaired renal tubular function, unsp
N26.1	Atrophy of kidney (terminal)
N26.9	Renal sclerosis, unspecified
O30.132	Triplet preg, trichorionic/triamniotic, second trimester

O30.133	Triplet pregnancy, trichorionic/triamniotic, third trimester
O30.139	Triplet pregnancy, trichorionic/triamniotic, unsp trimester
O30.231	Quad preg, quadrachorionic/quadra-amniotic, first trimester
O30.232	Quad preg, quadrachorionic/quadra-amniotic, second trimester
O30.233	Quad preg, quadrachorionic/quadra-amniotic, third trimester
O30.239	Quad preg, quadrachorionic/quadra-amniotic, unsp trimester
O30.831	Oth mult gest, num chorions & amnions = num ftses, 1st tri
O30.832	Oth mult gest, num chorions & amnions = num ftses, 2nd tri
O30.833	Oth mult gest, num chorions & amnions = num ftses, 3rd tri
O30.839	Oth mult gest, num chorions & amnions = num ftses, unsp tri
O36.8329	Matern care for abnlt of fetl hrt rate or rhym, 2nd tri, oth
O36.8330	Matern care for abnlt fetl hrt rate or rhym, 3rd tri, unsp
O36.8331	Matern care for abnlt fetl hrt rate or rhym, 3rd tri, fts1
O36.8332	Matern care for abnlt fetl hrt rate or rhym, 3rd tri, fts2
O36.8333	Matern care for abnlt fetl hrt rate or rhym, 3rd tri, fts3
O36.8334	Matern care for abnlt fetl hrt rate or rhym, 3rd tri, fts4
O36.8335	Matern care for abnlt fetl hrt rate or rhym, 3rd tri, fts5
O36.8339	Matern care for abnlt of fetl hrt rate or rhym, 3rd tri, oth
R00.1	Bradycardia, unspecified
R11.0	Nausea
R11.10	Vomiting, unspecified
R11.11	Vomiting without nausea
R11.12	Projectile vomiting
R11.14	Bilious vomiting
R11.2	Nausea with vomiting, unspecified
R19.7	Diarrhea, unspecified
R40.0	Somnolence
R40.1	Stupor
R40.20	Unspecified coma
R40.2110	Coma scale, eyes open, never, unspecified time
R40.2111	Coma scale, eyes open, never, in the field
R40.2112	Coma scale, eyes open, never, EMR
R40.2113	Coma scale, eyes open, never, at hospital admission
R40.2114	Coma scale, eyes open, never, 24+hrs
R40.2120	Coma scale, eyes open, to pain, unspecified time
R40.2121	Coma scale, eyes open, to pain, in the field
R40.2122	Coma scale, eyes open, to pain, EMR
R40.2123	Coma scale, eyes open, to pain, at hospital admission
R40.2124	Coma scale, eyes open, to pain, 24+hrs
R40.2210	Coma scale, best verbal response, none, unspecified time
R40.2211	Coma scale, best verbal response, none, in the field
R40.2212	Coma scale, best verbal response, none, EMR

R40.2213	Coma scale, best verbal response, none, admit
R40.2214	Coma scale, best verbal response, none, 24+hrs
R40.2220	Coma scale, best verb, incomprehensible words, unsp time
R40.2221	Coma scale, best verb, incomprehensible words, in the field
R40.2222	Coma scale, best verb, incomprehensible words, EMR
R40.2223	Coma scale, best verb, incomprehensible words, admit
R40.2224	Coma scale, best verb, incomprehensible words, 24+hrs
R40.2310	Coma scale, best motor response, none, unspecified time
R40.2311	Coma scale, best motor response, none, in the field
R40.2312	Coma scale, best motor response, none, EMR
R40.2313	Coma scale, best motor response, none, at hospital admission
R40.2314	Coma scale, best motor response, none, 24+hrs
R40.2320	Coma scale, best motor response, extension, unspecified time
R40.2321	Coma scale, best motor response, extension, in the field
R40.2322	Coma scale, best motor response, extension, EMR
R40.2323	Coma scale, best motor response, extension, admit
R40.2324	Coma scale, best motor response, extension, 24+hrs
R40.2340	Coma scale, best motor, flexion withdrawal, unsp time
R40.2341	Coma scale, best motor, flexion withdrawal, in the field
R40.2342	Coma scale, best motor response, flexion withdrawal, EMR
R40.2343	Coma scale, best motor response, flexion withdrawal, admit
R40.2344	Coma scale, best motor response, flexion withdrawal, 24+hrs
R40.4	Transient alteration of awareness
R42	Dizziness and giddiness
R44.0	Auditory hallucinations
R44.1	Visual hallucinations
R44.2	Other hallucinations
R44.3	Hallucinations, unspecified
R45.0	Nervousness
R45.3	Demoralization and apathy
R45.4	Irritability and anger
R45.86	Emotional lability
R45.87	Impulsiveness
R45.89	Other symptoms and signs involving emotional state
R48.3	Visual agnosia
R51	Headache
R53.1	Weakness
R53.2	Functional quadriplegia
R53.81	Other malaise
R53.82	Chronic fatigue, unspecified
R53.83	Other fatigue
R55	Syncope and collapse

R63.0	Anorexia
R94.31	Abnormal electrocardiogram [ECG] [EKG]
T46.0X1A	Poisoning by cardi-stim glycos/drug similar act, acc, init
T46.0X2A	Poison by cardi-stim glycos/drug similar act, self-harm, init
T46.0X3A	Poison by cardi-stim glycos/drug similar act, assault, init
T46.0X4A	Poisoning by cardi-stim glycos/drug similar act, undet, init
T46.0X5A	Adverse effect of cardi-stim glycos/drug similar act, init
T46.0X5S	Adverse effect of cardi-stim glycos/drug similar act, sequela
T46.1X5A	Adverse effect of calcium-channel blockers, init encntr
T46.2X1A	Poisoning by oth antidysrhythmic drugs, accidental, init
T46.2X2A	Poisoning by oth antidysrhythmic drugs, self-harm, init
T46.2X3A	Poisoning by oth antidysrhythmic drugs, assault, init encntr
T46.2X4A	Poisoning by oth antidysrhythmic drugs, undetermined, init
T46.2X5A	Adverse effect of other antidysrhythmic drugs, init encntr
T50.905A	Adverse effect of unsp drug/meds/biol subst, init
T50.995A	Adverse effect of drug/meds/biol subst, init
T78.41XA	Arthus phenomenon, initial encounter
T88.52XA	Failed moderate sedation during procedure, initial encounter
Z79.84	Long term (current) use of oral hypoglycemic drugs
Z79.899	Other long term (current) drug therapy