



## 190.16 - Partial Thromboplastin Time (PTT)

### Other Names/Abbreviations

PTT

### Description

Basic plasma coagulation function is readily assessed with a few simple laboratory tests: The Partial Thromboplastin Time (PTT), Prothrombin Time (PT), Thrombin Time (TT), or a quantitative fibrinogen determination. The PTT test is an in vitro laboratory test used to assess the intrinsic coagulation pathway and monitor heparin therapy.

### HCPCS Codes (Alphanumeric, CPT<sup>®</sup> AMA)

Code	Description
85730	Thromboplastin time, partial (PTT); plasma or whole blood

### ICD-9-CM Codes Covered by Medicare Program

The individual ICD-9-CM codes included in code ranges in the table below can be viewed on CMS' website under Downloads: Lab Code List. The link is: <http://www.cms.gov/Medicare/Coverage/CoverageGenInfo/LabNCDsICD9.html>

Code	Description
002.0-002.9	Typhoid and paratyphoid
003.0-003.9	Other Salmonella infections
038.9	Unspecified Septicemia
042	Human immunodeficiency virus (HIV) disease
060.0-060.9	Yellow fever
065.0-065.9	Arthropod borne hemorrhagic fever
070.0-070.9	Viral hepatitis
075	Infectious mononucleosis
078.6	Hemorrhagic nephrosonephritis
078.7	Arenaviral hemorrhagic fever
120.0	Schistosomiasis haematobium
121.1	Clonorchiasis
121.3	Fascioliasis
124	Trichinosis
135	Sarcoidosis
155.0-155.2	Malignant neoplasm of liver and intrahepatic bile ducts
197.7	Malignant neoplasm of liver, specified as secondary
238.4	Polycythemia vera
238.71	Essential thrombocythemia
238.72	Low grade myelodysplastic syndrome lesions
238.73	High grade myelodysplastic syndrome lesions

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Code	Description
238.74	Myelodysplastic syndrome with 5q deletion
238.75	Myelodysplastic syndrome, unspecified
238.76	Myelofibrosis with myeloid metaplasia
238.77	Post-transplant lymphoproliferative disorder (PTLD)
238.79	Other lymphatic and hematopoietic tissues
239.9	Neoplasm of unspecified nature, site unspecified
246.3	Hemorrhage and infarction of thyroid
249.40	Secondary diabetes mellitus with renal manifestations, not stated as uncontrolled
249.41	Secondary diabetes mellitus with renal manifestations, uncontrolled
250.40-250.43	Diabetic with renal manifestations
269.0	Deficiency of Vitamin K
273.0-273.3, 273.8-273.9	Disorders of plasma protein metabolism
275.01	Hereditary hemochromatosis
275.02	Hemochromatosis due to repeated red blood cell transfusions
275.03	Other hemochromatosis
275.09	Other disorders of iron metabolism
275.1	Disorders of copper metabolism
275.2	Disorders of magnesium metabolism
275.3	Disorders of phosphorus metabolism
275.40-275.49	Disorders of calcium metabolism
275.5	Hungry bone syndrome
275.8-275.9	Other specified disorders of mineral metabolism, and unspecified disorder of mineral metabolism
277.1	Disorders of porphyrin metabolism
277.30	Amyloidosis, unspecified
277.31	Familial Mediterranean fever
277.39	Other amyloidosis
285.1	Acute posthemorrhagic anemia
286.0	Congenital factor VIII disorder - Hemophilia A
286.1	Congenital factor IX disorder - Hemophilia B
286.2-286.3	Other congenital factor deficiencies
286.4	von Willebrand's disease
286.52	Acquired hemophilia
286.53	Antiphospholipid antibody with hemorrhagic disorder
286.59	Other hemorrhagic disorder due to intrinsic circulating anticoagulants, antibodies, or inhibitors
286.6	Defibrination syndrome
286.7	Acquired coagulation factor deficiency
286.9	Other and unspecified coagulation defects

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Code	Description
287.0-287.39	Allergic purpura; qualitative platelet defects; other non-thrombocytopenic purpuras; primary thrombocytopenia
287.41	Posttransfusion purpura
287.49	Other secondary thrombocytopenia
287.5-287.9	Thrombocytopenia, unspecified; other specified and unspecified hemorrhagic conditions
289.0	Polycythemia, secondary
289.81	Primary hypercoagulable state
325	Phlebitis and thrombophlebitis of intracranial venous sinuses
360.43	Hemophthalmos, except current injury
362.30-362.37	Retinal vascular occlusion
362.43	Hemorrhagic detachment of retinal pigment epithelium
362.81	Retinal hemorrhage
363.61-363.63	Choroidal hemorrhage
363.72	Choroidal detachment
368.9	Unspecified Visual Disturbances
372.72	Conjunctive hemorrhage
374.81	Hemorrhage of eyelid
376.32	Orbital hemorrhage
377.42	Hemorrhage in optic nerve sheaths
379.23	Vitreous hemorrhage
380.31	Hematoma of auricle or pinna
403.01, 403.11, 403.91	Hypertensive chronic kidney disease, with chronic kidney disease stage V or end stage renal disease
404.02, 404.12, 404.92	Hypertensive heart and chronic kidney disease, without heart failure and with chronic kidney disease stage V or end stage renal disease
410.00-410.92	Acute myocardial infarction
423.0	Hemopericardium
427.31	Atrial fibrillation
427.9	Cardiac dysrhythmias, unspecified
428.0	Congestive heart failure, unspecified
429.79	Mural thrombus
430-432.9	Cerebral hemorrhage
433.00-433.91	Occlusion and stenosis of precerebral arteries
434.00-434.91	Occlusion of cerebral arteries
435.9	Focal neurologic deficit
444.01, 444.09, 444.1-444.9	Arterial embolism and thrombosis
446.6	Thrombotic microangiopathy
447.2	Rupture of artery
448.0	Hereditary Hemorrhagic telangiectasia
451.0-451.9	Phlebitis and thrombophlebitis

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Code	Description
453.0	Budd-Chiari syndrome
453.1	Thrombophlebitis migrans
453.2	Embolism and thrombosis of inferior vena cava
453.3	Embolism and thrombosis of renal vein
453.40	Acute venous embolism and thrombosis of unspecified deep vessels of lower extremity
453.41	Acute venous embolism and thrombosis of deep vessels of proximal lower extremity
453.42	Acute venous embolism and thrombosis of deep vessels of distal lower extremity
453.50	Chronic venous embolism and thrombosis of unspecified deep vessels of lower extremity
453.51	Chronic venous embolism and thrombosis of deep vessels of proximal lower extremity
453.52	Chronic venous embolism and thrombosis of deep vessels of distal lower extremity
453.6	Venous embolism and thrombosis of superficial vessels of lower extremity
453.71	Chronic venous embolism and thrombosis of superficial veins of upper extremity
453.72	Chronic venous embolism and thrombosis of deep veins of upper extremity
453.73	Chronic venous embolism and thrombosis of upper extremity, unspecified
453.74	Chronic venous embolism and thrombosis of axillary veins
453.75	Chronic venous embolism and thrombosis of subclavian veins
453.76	Chronic venous embolism and thrombosis of internal jugular veins
453.77	Chronic venous embolism and thrombosis of other thoracic veins
453.79	Chronic venous embolism and thrombosis of other specified veins
453.81	Acute venous embolism and thrombosis of superficial veins of upper extremity
453.82	Acute venous embolism and thrombosis of deep veins of upper extremity
453.83	Acute venous embolism and thrombosis of upper extremity, unspecified
453.84	Acute venous embolism and thrombosis of axillary veins
453.85	Acute venous embolism and thrombosis of subclavian veins
453.86	Acute venous embolism and thrombosis of internal jugular veins
453.87	Acute venous embolism and thrombosis of other thoracic veins
453.89	Acute venous embolism and thrombosis of other specified veins
453.9	Other venous embolism and thrombosis of unspecified site
456.0	Esophageal varices with bleeding
456.1	Esophageal varices without bleeding
456.8	Varices of other sites

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**Medicare National Coverage Determinations (NCD)  
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Code	Description
459.89	Ecchymosis
530.7	Gastroesophageal laceration – hemorrhage syndrome
530.82	Esophageal hemorrhage
531.00-535.61	Gastric-Duodenal ulcer disease
535.70	Eosinophilic gastritis, without mention of obstruction
535.71	Eosinophilic gastritis, with obstruction
537.83	Angiodysplasia of stomach and duodenum with hemorrhage
537.84	Dieulafoy lesion (hemorrhagic) of stomach and duodenum
556.0-557.9	Hemorrhagic bowel disease
562.02-562.03	Diverticulosis of small intestine with hemorrhage
562.12	Diverticulosis of colon with hemorrhage
562.13	Diverticulitis of colon with hemorrhage
568.81	Hemoperitoneum (nontraumatic)
569.3	Hemorrhage of rectum and anus
570	Acute and subacute necrosis of liver
571.0-571.9	Chronic liver disease and cirrhosis
572.0	Abscess of liver
572.1	Portal pyemia
572.2	Hepatic encephalopathy
572.3	Portal hypertension
572.4	Hepatorenal syndrome
572.8	Other sequelae of chronic liver disease
573.0-573.9	Other disorders of liver
576.0-576.9	Biliary tract disorders
577.0	Acute pancreatitis
578.0-578.9	Gastrointestinal Hemorrhage
579.0-579.9	Malabsorption
581.0-581.9	Nephrotic Syndrome
583.9	Nephritis, with unspecified pathological lesion in kidney
584.5	Acute kidney failure with lesion of tubular necrosis
584.6	Acute kidney failure with lesion of renal cortical necrosis
584.7	Acute kidney failure with lesion of renal medullary (papillary) necrosis
584.8	Acute kidney failure with other specified pathological lesion in kidney
584.9	Acute kidney failure, unspecified
585.4-585.9	Chronic kidney disease
586	Renal failure
593.81-593.89	Other disorders of kidney and ureter, with hemorrhage
596.7	Hemorrhage into bladder wall
596.81	Infection of cystostomy
596.82	Mechanical complication of cystostomy
596.83	Other complication of cystostomy

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**Medicare National Coverage Determinations (NCD)  
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Code	Description
596.89	Other specified disorders of bladder
599.70	Hematuria, unspecified
599.71	Gross hematuria
599.72	Microscopic hematuria
607.82	Penile hemorrhage
608.83	Vascular disorders of male genital organs
611.89	Other specified disorders of breast including hematoma
620.7	Hemorrhage of broad ligament
621.4	Hematometra
622.8	Other specified disorders of cervix, with hemorrhage
623.6	Vaginal hematoma
623.8	Other specified diseases of the vagina, with hemorrhage
624.5	Hematoma of vulva
626.6	Metrorrhagia
626.7	Postcoital bleeding
627.0	Premenopausal bleeding
627.1	Postmenopausal bleeding
629.0	Hematocele female not elsewhere classified
632	Missed abortion
634.00-634.92	Spontaneous abortion
635.10-635.12	Legally induced abortion, complicated by delayed or excessive hemorrhage
636.10-636.12	Illegally induced abortion, complicated by delayed or excessive hemorrhage
637.10-637.12	Abortion unspecified, complicated by delayed or excessive hemorrhage
638.1	Failed attempt abortion, complicated by delayed or excessive hemorrhage
639.1	Delayed or excessive hemorrhage following abortion and ectopic and molar pregnancies
639.6	Complications following abortion and ectopic and molar pregnancies, embolism
640.00-640.93	Hemorrhage in early pregnancy
641.00-641.93	Antepartum hemorrhage
642.00-642.94	Hypertension complicating pregnancy, childbirth, and the puerperium
646.70-646.73	Liver disorders in pregnancy
649.30	Coagulation defects complicating pregnancy, childbirth, or the puerperium, unspecified as to episode of care or not applicable
649.31	Coagulation defects complicating pregnancy, childbirth, or the puerperium, delivered, with or without mention of antepartum condition
649.32	Coagulation defects complicating pregnancy, childbirth, or the puerperium, delivered, with mention of postpartum complication

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**Medicare National Coverage Determinations (NCD)  
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Code	Description
649.33	Coagulation defects complicating pregnancy, childbirth, or the puerperium, antepartum condition or complication
649.34	Coagulation defects complicating pregnancy, childbirth, or the puerperium, postpartum condition or complication
649.50	Spotting complicating pregnancy, unspecified as to episode of care or not applicable
649.51	Spotting complicating pregnancy, delivered, with or without mention of antepartum condition
649.53	Spotting complicating pregnancy, antepartum condition or complication
656.00-656.03	Fetal maternal hemorrhage
658.40-658.43	Infection of amniotic cavity
666.00-666.34	Postpartum hemorrhage
671.20-671.54	Phlebitis in pregnancy
673.00-673.84	Obstetrical pulmonary embolus
674.30-674.34	Other complications of surgical wounds, with hemorrhage
710.0	Systemic Lupus erythematosus
713.2	Arthropathy associated with hematologic disorders (note: may not be used without indicating associated condition first)
713.6	Arthropathy associated with Henoch Schonlein (note: may not be used without indicating associated condition first)
719.10-719.19	Hemarthrosis
729.5	Pain in limb
729.81	Swelling of limb
733.10-733.19	Pathologic fracture associated with fat embolism
762.1	Other forms of placental separation with hemorrhage (affecting newborn code – do not assign to mother’s record)
764.90-764.99	Fetal intrauterine growth retardation
767.0, 767.11	Subdural and cerebral hemorrhage
767.8	Other specified birth trauma, with hemorrhage
770.3	Fetal and newborn pulmonary hemorrhage
772.0	Fetal blood loss affecting newborn
772.10-772.14	Fetal and neonatal intraventricular hemorrhage
772.2	Fetal and neonatal subarachnoid hemorrhage
772.3	Fetal and neonatal umbilical hemorrhage after birth
772.4	Fetal and neonatal gastrointestinal hemorrhage
772.5	Fetal and neonatal adrenal hemorrhage
772.6	Fetal and neonatal cutaneous hemorrhage
772.8	Fetal and neonatal other specified hemorrhage of fetus or newborn
772.9	Fetal and neonatal unspecified hemorrhage of newborn
774.0-774.7	Other perinatal jaundice
776.0	Hemorrhagic disease of the newborn
776.1	Transient neonatal thrombocytopenia

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**Medicare National Coverage Determinations (NCD)  
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Code	Description
776.2	Disseminated intravascular coagulation in newborn
776.3	Other transient neonatal disorders of coagulation
776.4	Polycythemia neonatorum
776.5	Congenital anemia
776.6	Anemia of prematurity
776.7	Transient neonatal neutropenia
776.8	Other specified transient hematological disorders
776.9	Unspecified hematological disorder specific to newborn
780.2	Syncope
782.4	Jaundice, unspecified, not of newborn
782.7	Spontaneous ecchymoses Petechiae
784.7	Epistaxis
784.8	Hemorrhage from throat
785.4	Gangrene
785.50	Shock
786.05	Shortness of breath
786.30	Hemoptysis, unspecified
786.31	Acute idiopathic pulmonary hemorrhage in infants (AIPHI)
786.39	Other hemoptysis
786.50	Chest pain, unspecified
786.59	Chest pain
789.00-789.09	Abdominal pain
789.7	Colic
790.92	Abnormal coagulation profile
800.00-800.99	Fracture of vault of skull
801.00-801.99	Fracture of base of skull
802.20-802.9	Fracture of face bones
803.00-803.99	Other fracture, skull
804.00-804.99	Multiple fractures, skull
805.00- 806.9	Fracture, vertebral column
807.00-807.09	Fracture of rib(s), closed
807.10-807.19	Fracture of rib(s), open
808.8-808.9	Fracture of pelvis
809.0-809.1	Fracture of trunk
810.00-810.13	Fracture of clavicle
811.00-811.19	Fracture of scapula
812.00-812.59	Fracture of humerus
813.10-813.18	Fracture of radius and ulna, upper end, open
813.30-813.33	Fracture of radius and ulna, shaft, open
813.50-813.54	Fracture of radius and ulna, lower end, open
813.90-813.93	Fracture of radius and ulna, unspecified part, open

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**Medicare National Coverage Determinations (NCD)  
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Code	Description
819.0-819.1	Multiple fractures
820.00-821.39	Femur
823.00-823.92	Tibia and fibula
827.0-829.1	Other multiple lower limb
852.00-853.19	Subarachnoid subdural, and extradural hemorrhage, following injury, Other and specified intracranial hemorrhage following injury
860.0-860.5	Traumatic pneumothorax and hemothorax
861.00-861.32	Injury to heart and lung
862.0-862.9	Injury to other and unspecified intrathoracic organs
863.0-863.99	Injury to gastrointestinal tract
864.00-864.19	Injury to liver
865.00-865.19	Injury to spleen
866.00-866.13	Injury to kidney
867.0-867.9	Injury to pelvic organs
868.00-868.19	Injury to other intra-abdominal organs
869.0-869.1	Internal injury to unspecified or ill defined organs
900.00-900.9	Injury to blood vessels of head and neck
901.0-901.9	Injury to blood vessels of the thorax
902.0-902.9	Injury to blood vessels of the abdomen and pelvis
903.00-903.9	Injury to blood vessels of upper extremity
904.0-904.9	Injury to blood vessels of lower extremity and unspecified sites
920-924.9	Contusion with intact skin surface
925.1-929.9	Crushing injury
958.2	Secondary and recurrent hemorrhage
959.9	Injury, unspecified site
964.2	Poisoning by anticoagulants
964.5	Poisoning by anticoagulant antagonists
964.7	Poisoning by natural blood and blood products
980.0	Toxic effects of alcohol
989.5	Snake venom
995.20	Unspecified adverse effect of unspecified drug, medicinal and biological substance
995.21	Arthus phenomenon
995.24	Failed moderate sedation during procedure
995.27	Other drug allergy
995.29	Unspecified adverse effect of other drug, medicinal and biological substance
996.70-996.79	Other complications of internal prosthetic device
997.02	Iatrogenic cerebrovascular infarction or hemorrhage
998.11	Hemorrhage or hematoma complicating a procedure
998.12	Hematoma complicating a procedure

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Code	Description
999.2	Other vascular complications of medical care
V12.3	Personal history of diseases of blood and blood forming organs
V58.2	Admission for Transfusion of blood products
V58.61	Long term (current use) of anticoagulants
V58.83	Encounter for therapeutic drug monitoring

### Indications

1. The PTT is most commonly used to quantitate the effect of therapeutic unfractionated heparin and to regulate its dosing. Except during transitions between heparin and warfarin therapy, in general both the PTT and PT are not necessary together to assess the effect of anticoagulation therapy. PT and PTT must be justified separately.
2. A PTT may be used to assess patients with signs or symptoms of hemorrhage or thrombosis. For example:
  - Abnormal bleeding, hemorrhage or hematoma petechiae or other signs of thrombocytopenia that could be due to Disseminated Intravascular Coagulation
  - Swollen extremity with or without prior trauma
3. A PTT may be useful in evaluating patients who have a history of a condition known to be associated with the risk of hemorrhage or thrombosis that is related to the intrinsic coagulation pathway. Such abnormalities may be genetic or acquired. For example:
  - Dysfibrinogenemia
  - Afibrinogenemia (complete)
  - Acute or chronic liver dysfunction or failure, including Wilson's disease
  - Hemophilia
  - Liver disease and failure
  - Infectious processes
  - Bleeding disorders
  - Disseminated intravascular coagulation
  - Lupus erythematosus or other conditions associated with circulating inhibitors, e.g., factor VIII Inhibitor, lupus-like anticoagulant
  - Sepsis
  - Von Willebrand's disease
  - Arterial and venous thrombosis, including the evaluation of hypercoagulable states
  - Clinical conditions associated with nephrosis or renal failure
  - Other acquired and congenital coagulopathies as well as thrombotic states
4. A PTT may be used to assess the risk of thrombosis or hemorrhage in patients who are going to have a medical intervention known to be associated with increased risk of bleeding or thrombosis. An example is as follows: evaluation prior to invasive



procedures or operations of patients with personal or family history of bleeding or who are on heparin therapy

### **Limitations**

1. The PTT is not useful in monitoring the effects of warfarin on a patient's coagulation routinely. However, a PTT may be ordered on a patient being treated with warfarin as heparin therapy is being discontinued. A PTT may also be indicated when the PT is markedly prolonged due to warfarin toxicity.
2. The need to repeat this test is determined by changes in the underlying medical condition and/or the dosing of heparin.
3. Testing prior to any medical intervention associated with a risk of bleeding and thrombosis (other than thrombolytic therapy) will generally be considered medically necessary only where there are signs or symptoms of a bleeding or thrombotic abnormality or a personal history of bleeding, thrombosis or a condition associated with a coagulopathy. Hospital/clinic-specific policies, protocols, etc., in and of themselves, cannot alone justify coverage.

### **ICD-9-CM Codes That Do Not Support Medical Necessity**

Any ICD-9-CM code not listed in either of the ICD-9-CM sections above.

### **Sources of Information**

CMD Clinical Laboratory Workgroup

1999 CPT Physicians' Current Procedural Terminology, American Medical Association

Blue Book of Diagnostic Tests; PL Liu; Saunders

Wintrobe's Clinical Hematology; 9th Ed, 1993, Lea and Febiger

Harrison's Principles of Internal Medicine, 14<sup>th</sup> Ed., McGraw Hill, 1997.

Disorders of Hemostasis, Ratnoff, Oscar D. & Forbes, Charles D., W.B. Saunders Co., 1996

Hemostasis and Thrombosis: Basic Principles and Clinical Practice. Colman, et al editors, J.B. Lippincott, 3rd Edition, 1994, pp 896-898 and 1045-1046.

"College of American Pathologists Conference XXXI on Laboratory Monitoring of Anticoagulant Therapy," Arch Pathol Lab Med, Vol 122, Sep 1998, P 782-798.

Lupus Anticoagulants/Antiphospholipid-protein Antibodies: The Great Imposters, Triplett DA, Lupus 1996:5:431