

## References

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## Study codes

### Blood transfusion

#### ICD-10-PCS

- |         |   |
|---------|---|
| 30233H0 | Transfusion of Autologous Whole Blood into Peripheral Vein, Percutaneous Approach     |
| 30233N0 | Transfusion of autologous Red blood cells into peripheral vein, percutaneous approach |
| 30243H0 | Transfusion of Autologous Whole Blood into Central Vein, Percutaneous Approach        |

30243N0	Transfusion of Autologous Red Blood Cells into Central vein, percutaneous approach
30233H1	Transfusion of Nonautologous Whole Blood into Peripheral Vein, Percutaneous Approach
30243H1	Transfusion of Nonautologous Whole Blood into Central vein, percutaneous approach
30233N1	Transfusion of Nonautologous Red Blood Cells into Peripheral Vein, Percutaneous Approach
30233P1	Transfusion of Nonautologous Frozen Red Cells into Peripheral Vein, Percutaneous Approach
30243N1	Transfusion of Nonautologous Red Blood Cells into Central vein, percutaneous approach
30243P1	Transfusion of Nonautologous Frozen Red Cells into Central vein, percutaneous approach
30230H0	Transfusion of Autologous Whole Blood into Peripheral Vein, Open Approach
30230H1	Transfusion of Nonautologous Whole Blood into Peripheral Vein, Open Approach
30230J0	Transfusion of Autologous Serum Albumin into Peripheral Vein, Open Approach
30230J1	Transfusion of Nonautologous Serum Albumin into Peripheral Vein, Open Approach
30230K0	Transfusion of Autologous Frozen Plasma into Peripheral Vein, Open Approach
30230K1	Transfusion of Nonautologous Frozen Plasma into Peripheral Vein, Open Approach
30230L0	Transfusion of Autologous Fresh Plasma into Peripheral Vein, Open Approach
30230L1	Transfusion of Nonautologous Fresh Plasma into Peripheral Vein, Open Approach
30230M0	Transfusion of Autologous Plasma Cryoprecipitate into Peripheral Vein, Open Approach
30230M1	Transfusion of Nonautologous Plasma Cryoprecipitate into Peripheral Vein, Open Approach
30230N0	Transfusion of Autologous Red Blood Cells into Peripheral Vein, Open Approach
30230N1	Transfusion of Nonautologous Red Blood Cells into Peripheral Vein, Open Approach
30230P0	Transfusion of Autologous Frozen Red Cells into Peripheral Vein, Open Approach
30230P1	Transfusion of Nonautologous Frozen Red Cells into Peripheral Vein, Open Approach
30230Q0	Transfusion of Autologous White Cells into Peripheral Vein, Open Approach
30230Q1	Transfusion of Nonautologous White Cells into Peripheral Vein, Open Approach
30230R0	Transfusion of Autologous Platelets into Peripheral Vein, Open Approach

30230R1	Transfusion of Nonautologous Platelets into Peripheral Vein, Open Approach
30230S0	Transfusion of Autologous Globulin into Peripheral Vein, Open Approach
30230T0	Transfusion of Autologous Fibrinogen into Peripheral Vein, Open Approach
30230V0	Transfusion of Autologous Antihemophilic Factors into Peripheral Vein, Open Approach
30230W0	Transfusion of Autologous Factor IX into Peripheral Vein, Open Approach
30233J0	Transfusion of Autologous Serum Albumin into Peripheral Vein, Percutaneous Approach
30233J1	Transfusion of Nonautologous Serum Albumin into Peripheral Vein, Percutaneous Approach
30233K0	Transfusion of Autologous Frozen Plasma into Peripheral Vein, Percutaneous Approach
30233K1	Transfusion of Nonautologous Frozen Plasma into Peripheral Vein, Percutaneous Approach
30233L0	Transfusion of Autologous Fresh Plasma into Peripheral Vein, Percutaneous Approach
30233L1	Transfusion of Nonautologous Fresh Plasma into Peripheral Vein, Percutaneous Approach
30233M0	Transfusion of Autologous Plasma Cryoprecipitate into Peripheral Vein, Percutaneous Approach
30233M1	Transfusion of Nonautologous Plasma Cryoprecipitate into Peripheral Vein, Percutaneous Approach
30233P0	Transfusion of Autologous Frozen Red Cells into Peripheral Vein, Percutaneous Approach
30233Q0	Transfusion of Autologous White Cells into Peripheral Vein, Percutaneous Approach
30233Q1	Transfusion of Nonautologous White Cells into Peripheral Vein, Percutaneous Approach
30233R0	Transfusion of Autologous Platelets into Peripheral Vein, Percutaneous Approach
30233R1	Transfusion of Nonautologous Platelets into Peripheral Vein, Percutaneous Approach
30233S0	Transfusion of Autologous Globulin into Peripheral Vein, Percutaneous Approach
30233T0	Transfusion of Autologous Fibrinogen into Peripheral Vein, Percutaneous Approach
30233V0	Transfusion of Autologous Antihemophilic Factors into Peripheral Vein, Percutaneous Approach
30233W0	Transfusion of Autologous Factor IX into Peripheral Vein, Percutaneous Approach
30240H0	Transfusion of Autologous Whole Blood into Central Vein, Open Approach
30240H1	Transfusion of Nonautologous Whole Blood into Central Vein, Open Approach
30240J0	Transfusion of Autologous Serum Albumin into Central Vein, Open Approach

30240J1	Transfusion of Nonautologous Serum Albumin into Central Vein, Open Approach
30240K0	Transfusion of Autologous Frozen Plasma into Central Vein, Open Approach
30240K1	Transfusion of Nonautologous Frozen Plasma into Central Vein, Open Approach
30240L0	Transfusion of Autologous Fresh Plasma into Central Vein, Open Approach
30240L1	Transfusion of Nonautologous Fresh Plasma into Central Vein, Open Approach
30240M0	Transfusion of Autologous Plasma Cryoprecipitate into Central Vein, Open Approach
30240M1	Transfusion of Nonautologous Plasma Cryoprecipitate into Central Vein, Open Approach
30240N0	Transfusion of Autologous Red Blood Cells into Central Vein, Open Approach
30240N1	Transfusion of Nonautologous Red Blood Cells into Central Vein, Open Approach
30240P0	Transfusion of Autologous Frozen Red Cells into Central Vein, Open Approach
30240P1	Transfusion of Nonautologous Frozen Red Cells into Central Vein, Open Approach
30240Q0	Transfusion of Autologous White Cells into Central Vein, Open Approach
30240Q1	Transfusion of Nonautologous White Cells into Central Vein, Open Approach
30240R0	Transfusion of Autologous Platelets into Central Vein, Open Approach
30240R1	Transfusion of Nonautologous Platelets into Central Vein, Open Approach
30240S0	Transfusion of Autologous Globulin into Central Vein, Open Approach
30240T0	Transfusion of Autologous Fibrinogen into Central Vein, Open Approach
30240V0	Transfusion of Autologous Antihemophilic Factors into Central Vein, Open Approach
30240W0	Transfusion of Autologous Factor IX into Central Vein, Open Approach
30243J0	Transfusion of Autologous Serum Albumin into Central Vein, Percutaneous Approach
30243J1	Transfusion of Nonautologous Serum Albumin into Central Vein, Percutaneous Approach
30243K0	Transfusion of Autologous Frozen Plasma into Central Vein, Percutaneous Approach
30243K1	Transfusion of Nonautologous Frozen Plasma into Central Vein, Percutaneous Approach
30243L0	Transfusion of Autologous Fresh Plasma into Central Vein, Percutaneous Approach
30243L1	Transfusion of Nonautologous Fresh Plasma into Central Vein, Percutaneous Approach
30243M0	Transfusion of Autologous Plasma Cryoprecipitate into Central Vein, Percutaneous Approach
30243M1	Transfusion of Nonautologous Plasma Cryoprecipitate into Central Vein, Percutaneous Approach

30243P0	Transfusion of Autologous Frozen Red Cells into Central Vein, Percutaneous Approach
30243Q0	Transfusion of Autologous White Cells into Central Vein, Percutaneous Approach
30243Q1	Transfusion of Nonautologous White Cells into Central Vein, Percutaneous Approach
30243R0	Transfusion of Autologous Platelets into Central Vein, Percutaneous Approach
30243R1	Transfusion of Nonautologous Platelets into Central Vein, Percutaneous Approach
30243S0	Transfusion of Autologous Globulin into Central Vein, Percutaneous Approach
30243T0	Transfusion of Autologous Fibrinogen into Central Vein, Percutaneous Approach
30243V0	Transfusion of Autologous Antihemophilic Factors into Central Vein, Percutaneous Approach
30243W0	Transfusion of Autologous Factor IX into Central Vein, Percutaneous Approach
30250H0	Transfusion of Autologous Whole Blood into Peripheral Artery, Open Approach
30250H1	Transfusion of Nonautologous Whole Blood into Peripheral Artery, Open Approach
30250J0	Transfusion of Autologous Serum Albumin into Peripheral Artery, Open Approach
30250J1	Transfusion of Nonautologous Serum Albumin into Peripheral Artery, Open Approach
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30250P0	Transfusion of Autologous Frozen Red Cells into Peripheral Artery, Open Approach

30250P1	Transfusion of Nonautologous Frozen Red Cells into Peripheral Artery, Open Approach
30250Q0	Transfusion of Autologous White Cells into Peripheral Artery, Open Approach
30250Q1	Transfusion of Nonautologous White Cells into Peripheral Artery, Open Approach
30250R0	Transfusion of Autologous Platelets into Peripheral Artery, Open Approach
30250R1	Transfusion of Nonautologous Platelets into Peripheral Artery, Open Approach
30250S0	Transfusion of Autologous Globulin into Peripheral Artery, Open Approach
30250T0	Transfusion of Autologous Fibrinogen into Peripheral Artery, Open Approach
30250V0	Transfusion of Autologous Antihemophilic Factors into Peripheral Artery, Open Approach
30250W0	Transfusion of Autologous Factor IX into Peripheral Artery, Open Approach
30253H0	Transfusion of Autologous Whole Blood into Peripheral Artery, Percutaneous Approach
30253H1	Transfusion of Nonautologous Whole Blood into Peripheral Artery, Percutaneous Approach
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30253R0	Transfusion of Autologous Platelets into Peripheral Artery, Percutaneous Approach
30253R1	Transfusion of Nonautologous Platelets into Peripheral Artery, Percutaneous Approach
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30253V0	Transfusion of Autologous Antihemophilic Factors into Peripheral Artery, Percutaneous Approach
30253W0	Transfusion of Autologous Factor IX into Peripheral Artery, Percutaneous Approach
30260H0	Transfusion of Autologous Whole Blood into Central Artery, Open Approach
30260H1	Transfusion of Nonautologous Whole Blood into Central Artery, Open Approach
30260J0	Transfusion of Autologous Serum Albumin into Central Artery, Open Approach
30260J1	Transfusion of Nonautologous Serum Albumin into Central Artery, Open Approach
30260K0	Transfusion of Autologous Frozen Plasma into Central Artery, Open Approach
30260K1	Transfusion of Nonautologous Frozen Plasma into Central Artery, Open Approach
30260L0	Transfusion of Autologous Fresh Plasma into Central Artery, Open Approach
30260L1	Transfusion of Nonautologous Fresh Plasma into Central Artery, Open Approach
30260M0	Transfusion of Autologous Plasma Cryoprecipitate into Central Artery, Open Approach
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30260P1	Transfusion of Nonautologous Frozen Red Cells into Central Artery, Open Approach
30260Q0	Transfusion of Autologous White Cells into Central Artery, Open Approach
30260Q1	Transfusion of Nonautologous White Cells into Central Artery, Open Approach
30260R0	Transfusion of Autologous Platelets into Central Artery, Open Approach
30260R1	Transfusion of Nonautologous Platelets into Central Artery, Open Approach

30260S0	Transfusion of Autologous Globulin into Central Artery, Open Approach
30260T0	Transfusion of Autologous Fibrinogen into Central Artery, Open Approach
30260V0	Transfusion of Autologous Antihemophilic Factors into Central Artery, Open Approach
30260W0	Transfusion of Autologous Factor IX into Central Artery, Open Approach
30263H0	Transfusion of Autologous Whole Blood into Central Artery, Percutaneous Approach
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30263Q1	Transfusion of Nonautologous White Cells into Central Artery, Percutaneous Approach
30263R0	Transfusion of Autologous Platelets into Central Artery, Percutaneous Approach
30263R1	Transfusion of Nonautologous Platelets into Central Artery, Percutaneous Approach
30263S0	Transfusion of Autologous Globulin into Central Artery, Percutaneous Approach



30263T0	Transfusion of Autologous Fibrinogen into Central Artery, Percutaneous Approach
30263V0	Transfusion of Autologous Antihemophilic Factors into Central Artery, Percutaneous Approach
30263W0	Transfusion of Autologous Factor IX into Central Artery, Percutaneous Approach

#### CPT

36430	Transfusion blood and blood products
86890	Under Transfusion Medicine Procedures
86891	Under Transfusion Medicine Procedures
86985	Under Transfusion Medicine Procedures
P9010	Blood (whole), for transfusion, per unit
P9011	Blood, split unit
P9012	Cryoprecipitate, each unit
P9016	Red blood cells, leukocytes reduced, each unit
P9017	Fresh frozen plasma (single donor), frozen within 8 hours of collection, each unit
P9019	Platelets, each unit
P9020	Platelet rich plasma, each unit
P9021	Red blood cells, each unit
P9022	Red blood cells, washed, each unit
P9023	Plasma, pooled multiple donor, solvent/detergent treated, frozen, each unit
P9032	Platelets, irradiated, each unit
P9033	Platelets, leukocytes reduced, irradiated, each unit
P9034	Platelets, pheresis, each unit
P9035	Platelets, pheresis, leukocytes reduced, each unit
P9036	Platelets, pheresis, irradiated, each unit
P9037	Platelets, pheresis, leukocytes reduced, irradiated, each unit
P9038	Red blood cells, irradiated, each unit
P9039	Red blood cells, deglycerolized, each unit
P9040	Red blood cells, leukocytes reduced, irradiated, each unit
P9043	Infusion, plasma protein fraction
P9044	Plasma, cryoprecipitate reduced, each unit
P9048	Infusion, plasma protein fraction (human), 5%, 250 ml
P9050	Granulocytes, pheresis, each unit
P9051	Whole blood or red blood cells, leukocytes reduced, cmv-negative, each unit
P9052	Platelets, hla-matched leukocytes reduced, apheresis/pheresis, each unit
P9053	Platelets, pheresis, leukocytes reduced, cmv-negative, irradiated, each unit
P9054	Whole blood or red blood cells, leukocytes reduced, frozen, deglycerol, washed, each unit
P9055	Platelets, leukocytes reduced, cmv-negative, apheresis/pheresis, each unit
P9056	Whole blood, leukocytes reduced, irradiated, each unit

P9057	Red blood cells, frozen/deglycerolized/washed, leukocytes reduced, irradiated, each unit
P9058	Red blood cells, leukocytes reduced, cmv-negative, irradiated, each unit
P9059	Fresh frozen plasma between 8-24 hours of collection, each unit
P9060	Fresh frozen plasma, donor retested, each unit
P9070	Plasma, pooled multiple donor, pathogen reduced, frozen, each unit
P9071	Plasma (single donor), pathogen reduced, frozen, each unit
P9072	Platelets, pheresis, pathogen reduced or rapid bacterial tested, each unit

#### Bleeding

#### ICD 10 DX

D62	Acute posthemorrhagic anemia
R58	Hemorrhage, not elsewhere classified
J95.61	Intraoperative hemorrhage and hematoma of a respiratory system organ or structure complicating a respiratory system procedure
J95.62	Intraoperative hemorrhage and hematoma of a respiratory system organ or structure complicating other procedure
J95.830	Postprocedural hemorrhage of a respiratory system organ or structure following a respiratory system procedure
J95.831	Postprocedural hemorrhage of a respiratory system organ or structure following other procedure
J95.860	Postprocedural hematoma of a respiratory system organ or structure following a respiratory system procedure
J95.861	Postprocedural hematoma of a respiratory system organ or structure following other procedure
J95.862	Postprocedural seroma of a respiratory system organ or structure following a respiratory system procedure
J95.863	Postprocedural seroma of a respiratory system organ or structure following other procedure
I97.418	Intraoperative hemorrhage and hematoma of a circulatory system organ or structure complicating other circulatory system procedure
I97.42	Intraoperative hemorrhage and hematoma of a circulatory system organ or structure complicating other procedure
I97.618	Postprocedural hemorrhage of a circulatory system organ or structure following other circulatory system procedure
I97.620	Postprocedural hemorrhage of a circulatory system organ or structure following other procedure
I97.621	Postprocedural hematoma of a circulatory system organ or structure following other procedure

I97.622	Postprocedural seroma of a circulatory system organ or structure following other procedure
I97.638	Postprocedural hematoma of a circulatory system organ or structure following other circulatory system procedure

Air leak

CD-10-DX	J95.812	Postprocedural air leak
	J93.82	Other air leak, applicable to persistent air leak/pulmonary air leak

Pneumothorax

ICD-10-DX	J95.811	Postprocedural pneumothorax
	J93.83	Other Pneumothorax
	J93.9	Pneumothorax, unspecified

Conversion to open

ICD-10-DX	Z53.31	Laparoscopic surgical procedure converted to open procedure
	Z53.32	Thoracoscopic surgical procedure converted to open procedure
	Z53.39	Other specified procedure converted to open procedure