CORDSAVINGS
Predestined to biobanking

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Umbilical cord blood therapies

There are now **more than 80 diseases** that can be treated with hematopoietic stem cells (HSCs) collected from umbilical cord blood. For some diseases, these treatments are the only therapy, and for others, they are only used when first-line treatments have failed or the disease is very aggressive.

- **Allogeneic**: The patient receives stem cells from a compatible donor, whether a sibling or unrelated donor.
- **Autologous**: The patient receives his or her own stem cells. By registering cord blood in a family bank, parents ensure that their child can use his or her own cells for autologous treatment or that an immediate family member can benefit from related allogeneic treatment.

Cancers

Leukemias (a cancer of the blood immune system)

Diagnosis	Autologous	Allogeneic
Acute biphenotypic leukemia	✗	✓
Acute lymphoblastic leukemia (ALL)	✗	✓
Acute myeloid leukemia (AML)	✗	✓
Acute undifferentiated leukemia	✗	✓
Chronic lymphocytic leukemia (CLL)	✗	✓
Chronic myeloid leukemia (CML)	✗	✓
Juvenile chronic myeloid leukemia (JCML)	✗	✓
Juvenile myelomonocytic leukemia (JMML)	✗	✓

Myelodysplastic syndromes (also called pre-leukemias)

Diagnosis	Autologous	Allogeneic
Refractory anemia	✗	✓
Refractory anemia with ringed sideroblasts	✗	✓

Refractory anemia with excess blasts	✗	✓
Refractory anemia with excess blasts in transformation	✗	✓
Chronic myelomonocytic leukemia (CMML)	✗	✓

Lymphomas (a cancer of the blood immune system)

Diagnosis	Autologous	Allogeneic
Hodgkin lymphoma	✓	✓
Non-Hodgkin lymphoma (Burkitt lymphoma)	✓	✓

Solid tumors (not originating from blood or the immune system)

Diagnosis	Autologous	Allogeneic
Neuroblastoma	✓	✗
Retinoblastoma	✓	✗
Medulloblastoma	✓	✗

Blood disorders

Anemias (deficiency or malformation of red blood cells)

Diagnosis	Autologous	Allogeneic
Aplastic anemia	✗	✓
Congenital dyserythropoietic anemia	✗	✓
Fanconi anemia	✗	✓
Paroxysmal nocturnal hemoglobinuria (PNH)	✗	✓

Inherited red blood cell disorders

Diagnosis	Autologous	Allogeneic
Beta-thalassemia major	✗	✓
Diamond-Blackfan anemia	✗	✓
Pure red cell aplasia	✗	✓

Sickle cell disease	✗	✓

Inherited platelet disorders

Diagnosis	Autologous	Allogeneic
Amégacaryocytose / Thrombocytopénie congénitale	✗	✓
Thrombasthénie de Glanzmann	✗	✓

Inherited immune system disorders: severe combined immunodeficiency (SCID)

Diagnosis	Autologous	Allogeneic
SCID with adenosine deaminase deficiency (ADA-SCID)	✗	✓
X-linked SCID	✗	✓
SCID with absence of T and B cells	✗	✓
SCID with absence of T cells and normal B cells	✗	✓
Omenn syndrome	✗	✓

Inherited immune system disorders: neutropenias

Diagnosis	Autologous	Allogeneic
Genetic infantile agranulocytosis (Kostmann syndrome)	✗	✓
Myelokathexis	✗	✓

Inherited immune system disorders – Others

Diagnosis	Autologous	Allogeneic
Ataxia-telangiectasia	✗	✓
Nude lymphocyte syndrome	✗	✓
Common variable immunodeficiency	✗	✓
DiGeorge syndrome	✗	✓
Leukocyte adhesion deficiency	✗	✓
Lymphoproliferative disorders	✗	✓

X-linked lymphoproliferative disorder (also called Epstein-Barr virus susceptibility)	✗	✓
Wiskott-Aldrich syndrome	✗	✓

Myeloproliferative disorders

Diagnosis	Autologous	Allogeneic
Acute myelofibrosis	✗	✓
Agnogenic myeloid metaplasia (myelofibrosis)	✗	✓
Polycythemia vera	✗	✓
Essential thrombocythemia	✗	✓

Phagocyte disorders

Diagnosis	Autologous	Allogeneic
Chediak-Higashi syndrome	✗	✓
Chronic granulomatous disease	✗	✓
Neutrophil actin deficiency	✗	✓
Reticular dysgenesis	✗	✓

Bone marrow cancers

Diagnosis	Autologous	Allogeneic
Multiple myeloma	✓	✓
Primary plasma cell leukemia (PCL)	✓	✓
Secondary plasma cell leukemia	✓	✓
Waldenström macroglobulinemia	✓	✓

Immune disorders

Inherited diseases (immune system and other organs)

Diagnosis	Autologous	Allogeneic
Hypoplasia of cartilage and hair	✗	✓

Gunther's disease (erythropoietic porphyria)	✗	✓
Hermansky-Pudlak syndrome	✗	✓
Pearson syndrome	✗	✓
Shwachman-Diamond syndrome	✗	✓
Systemic mastocytosis	✗	✓

Metabolic disorders

Mucopolysaccharidosis (MPS) storage diseases

Diagnosis	Autologous	Allogeneic
Hunter syndrome (MPS II)	✗	✓
Hurler syndrome (MPS IH)	✗	✓
Maroteaux-Lamy syndrome (MPS VI)	✗	✓
Morquio syndrome (MPS IV)	✗	✓
Sanfilippo syndrome (MPS III)	✗	✓
Scheie syndrome (MPS IS)	✗	✓

Sly syndrome, beta-glucuronidase deficiency (MPS VII)

Diagnosis	Autologous	Allogeneic
Mucolipidosis II (I-cell disease)	✗	✓

Leukodystrophy disorders

Diagnosis	Autologous	Allogeneic
Adrenoleukodystrophy (ALD) / Adrenomyeloneuropathy (AMN)	✗	✓
Krabbe disease (globoid cell leukodystrophy)	✗	✓
Metachromatic leukodystrophy	✗	✓
Pelizaeus-Merzbacher disease	✗	✓

Lysosomal storage diseases

Diagnosis	Autologous	Allogeneic
Niemann-Pick disease	✗	✓
Sandhoff disease	✗	✓
Wolman disease	✗	✓

Inherited diseases - Others

Diagnosis	Autologous	Allogeneic
Lesch-Nyhan syndrome	✗	✓
Osteopetrosis	✗	✓

Clinical trials using stem cells

Neonatal stem cells are at the center of hundreds of clinical trials across a variety of conditions, highlighting their versatility and therapeutic potential. In some cases, they are a primary treatment option, while in others, they are explored when conventional therapies prove insufficient. These ongoing trials highlight the immense potential and promise that neonatal stem cells hold to transform the medical treatment landscape and offer hope to patients facing a variety of health challenges.

Neurological disorders

Diagnosis	Cord blood	Umbilical tissue	Placental tissue
Alzheimer's disease	✓	✓	✗
Autism	✓	✓	✓
Cerebral palsy	✓	✓	✓
Encephalopathy	✓	✗	✗
Developmental delay	✓	✗	✗
Hearing loss (acquired sensorineural)	✓	✗	✗
Intraventricular hemorrhage	✓	✗	✗
Parkinson's disease	✓	✓	✓
Spinal cord injury	✓	✓	✓

Stroke	✓	✓	✗
Traumatic brain injury	✓	✓	✓

Autoimmune diseases

Diagnosis	Cord blood	Umbilical tissue	Placental tissue
Alopecia areata	✓	✗	✗
Amyotrophic lateral sclerosis (ALS)	✓	✓	✗
Crohn's disease	✓	✗	✗
Eczema (atopic dermatitis)	✓	✗	✗
Graft-versus-host disease (GvHD)	✓	✓	✓
Lupus	✓	✓	✗
Multiple sclerosis	✗	✓	✓
Psoriasis	✗	✓	✗
Rheumatoid arthritis	✓	✓	✗
Scleroderma	✓	✗	✗
Systemic sclerosis	✓	✗	✗
Ulcerative colitis	✗	✗	✗

Cardiovascular

Diagnosis	Cord blood	Umbilical tissue	Placental tissue
Acute myocardial infarction (heart attack)	✗	✓	✗
Cardiomyopathy	✗	✓	✗
Critical limb ischemia (CLI)	✓	✓	✗
Heart failure	✗	✓	✗
Peripheral artery disease (PAD)	✓	✓	✗

Surgery for congenital heart defects	✓	✗	✗

Diabetes

Diagnosis	Cord blood	Umbilical tissue	Placental tissue
Type 1 diabetes (autoimmune)	✓	✗	✗
Type 2 diabetes	✓	✓	✗
Diabetic foot ulcer	✗	✓	✗
Diabetic peripheral neuropathy	✗	✓	✗

Genetic and/or metabolic disorders

Diagnosis	Cord blood	Umbilical tissue	Placental tissue
Frailty associated with aging	✓	✓	✗
Duchenne muscular dystrophy	✗	✓	✗
Epidermolysis bullosa	✓	✗	✗
Hereditary ataxia	✗	✓	✗
Lysosomal storage diseases	✓	✗	✗
Metabolic syndrome	✗	✓	✗
Severe combined immunodeficiency	✓	✗	✗
Spinal muscular atrophy	✗	✓	✗
Tay-Sachs disease	✓	✗	✗

Orthopedic

Diagnosis	Cord blood	Umbilical tissue	Placental tissue
Ankylosing spondylitis	✗	✓	✗
Cartilage lesion	✓	✓	✗
Cleft palate repair	✗	✓	✗

Non-union fractures	✗	✓	✗
Osteoarthritis	✓	✓	✗
Osteochondral lesion	✓	✗	✗
Spinal fusion surgery	✗	✓	✗

Others

Diagnosis	Cord blood	Umbilical tissue	Placental tissue
Acute respiratory distress syndrome (ARDS)	✗	✓	✗
Bronchopulmonary dysplasia (BPD)	✓	✓	✗
Erectile dysfunction	✗	✓	✗
Eye diseases	✓	✓	✓
Fistula	✗	✓	✗
HIV (Human Immunodeficiency Virus)	✓	✗	✗
Liver cirrhosis	✓	✓	✗
Liver failure	✓	✓	✗
Peyronie's disease	✗	✓	✗
Kidney failure	✗	✓	✗
Premature ovarian insufficiency	✓	✓	✗
Injuries	✗	✓	✓
Uterine scars	✗	✓	✗