ESPE Code	***Diagnosis of disorders of bone metabolism including calzium and phosphate metabolism according to the European society of Pediatric Endocrinology (ESPE)***	**OMIM**	**ICD-10**
12A	**TRANSIENT HYPOCALCAEMI A (NEONATAL)**		E83.5
12A.1	**Early neonatal**		P71.1
12A.1a	Prematurity		
12A.1b	Asphyxia		
12A.1c	Infant of diabetic mother		
12A.1d	Perinatal stress or trauma		
12A.2	**Late neonatal**		P71.1
12A.2a	Disorders classified elsewhere: *Conditions classified under permanent hypocalcaemia, hypomagnesaemia*		
12A.2b	High milk phosphate load		P71.0, P71.1
12A.2c	Parenteral nutrition		
12A.2d	Exchange transfusions		
12A.2e	Chronic alkalosis or bicarbonate treatment		
12A.2f	Maternal hypercalcaemia		
12A.2g	Maternal vitamin D deficiency		
12A.2h	Transient hypoparathyroidism		P71.4

12B	**PERMANENT HYPOCALCAEMIA**		
12B.1	**Genetic disorders of the calcium-sensing receptor**		
12B.1a	Autosomal-dominant hypocalcaemia	#146200	
12B.1b	Autosomal-dominant hypocalcaemia with Bartter-like features	601199	
12B.2	**Hypoparathyroidism**		E20.9
12B.2a	Disorders classified elsewhere: *DiGeorge syndrome types 1 and 2* (14B.10) *Autoimmune polyglandular syndrome type 1 (APECED syndrome)* (14C.4a)		E20.8
12B.2b	X-linked hypoparathyroidism	307700%	E20.8
12B.2c	Mitochondrial disorders		
12B.2c.1	Kearns-Sayre	#530000	
12B.2c.2	MELAS	#540000	
12B.2c.3	Pearson marrow-pancreas syndrome	#557000	
12B.2c.4	tRNA-Leu mutation	*590050	
12B.2c.9	Other		
12B.2d	Hypoparathyroidism, deafness and renal anomalies (Barakat syndrome)	#146255	
12B.2e	Long-chain hydroxyacyl-CoA dehydrogenase deficiency (LCHAD deficiency) [primary 11B.5d]	*600890	
12B.2f	Other familial syndromes		E20.8
12B.2f.1	Kenny-Caffey syndrome type 1	#244460	
12B.2f.2	Sanjad-Sakati	#241410	
12B.2f.9	Other specified syndromes		
12B.2g	Acquired hypoparathyroidism		
12B.2g.1	Parathyroid surgery		
12B.2g.2	Isolated autoimmune hypoparathyroidism		
12B.2g.3	Iron overload		
12B.2g.4	Other specified acquired forms		
12B.2z	Idiopathic		E20.0
12B.3	**PTH defects** (autosomal-dominant or autosomal-recessive familial isolated hypoparathyroidism)	#146200	E20.8
12B.4	**PTH/PTHrP receptor defects**		
12B.4a	Pseudohypoparathyroidism type 1b	#603233	
12B.4z	Other PTH/PTHrP receptor defects, unspecified		
12B.5	**Post-receptor defects**		
12B.5a	Classified elsewhere: *Pseudohypoparathyroidism type Ia (Albright's hereditary osteodystrophy,* 14B.2)		E20.1
12B.5b	Pseudohypoparathyroidism type Ic	#103580	E20.1
12B.5c	Pseudohypoparathyroidism type II	203330%	E20.1
12B.5d	Pseudohypoparathyroidism with testotoxicosis	#176410	E20.1
12B.6	**Magnesium deficiency**		E83.4
12B.6a	Familial primary hypomagnesaemia	#248250	
12B.6b	Familial hypomagnesaemia with hypercalciuria, nephrocalcinosis, and severe ocular involvement	#248190	
12B.6c	Isolated renal magnesium wasting	#154020	
12B.6d	Hypomagnesaemia with secondary hypocalcemia	#602014	
12B.6e	Gitelman syndrome [primary 14B.15]	#263800	
12B.7	**Calciopenic rickets** (see 12C.1)		

12B.8	**Systemic conditions associated with hypocalcaemia**		
12B.8a	Tumour lysis syndrome		
12B.8b	Renal osteodystrophy		N25.0
12B.8c	AIDS		
12B.8y	Other specified conditions		
12B.8z	Other conditions, unspecified		
12C	**RICKETS**		
12C.1	**Calciopenic rickets**		E55.0
12C.1a	Nutritional (vitamin D deficiency)		
12C.1a.1	Malabsorption		
12C.1a.2	Liver disease		
12C.1a.3	Anticonvulsant treatment (phenobarbital, phenytoin)		
12C.1a.4	Renal osteodystrophy		N25.0
12C.1a.5	Calcium deficiency rickets		
12C.1b	Genetic		
12C.1b.1	Vitamin D 1_-hydroxylase deficiency (formerly known as pseudo-vitamin D-deficiency rickets, vitamin D dependent rickets type I)	#264700	E83.3
12C.1b.2	Hereditary 1,25(OH)2D-resistant rickets (formerly known as pseudo-vitamin D-deficiency rickets type II, vitamin D-dependent rickets type II, calcitriol-resistant rickets)	#277400	E83.3
12C.2	**Phosphopenic rickets**		E83.3
12C.2a	Classified elsewhere: *McCune-Albright syndrome* (14B.22) *Renal tubular disorders – Fanconi renotubular syndrome* (14B.13)		
12C.2b	Familial hypophosphataemic rickets		
12C.2b.1	X-linked hypophosphataemic rickets	#307800	
12C.2b.2	Autosomal-dominant hypophosphataemic rickets	#193100	
12C.2b.3	Hereditary hypophosphataemic rickets with hypercalciuria	#241530	
12C.2b.4	Hypophosphataemic nonrachitic bone disease	146350%	
12C.2c	Tumour-induced osteomalacia		
12C.2d	Decreased phosphate intake		
12C.3	**Hypopophosphatasia** *(if not associated with rickets, classify under* 12E.5l*)*	#146300 #241500	E83.3
12D	**OSTEOPOROSIS**		M81.9
12D.1	**Genetic defects**		
12D.1a	Classified elsewhere: *Ehlers-Danlos syndrome* (14B.11) *Marfan syndrome* [primary 14B.20, other secondary 2A.2a]		
12D.1b	Osteogenesis imperfecta (types I–VII)	#166200 #166210 #166220 #166240 #259420	
12D.1c	Homocystinuria [if tall, classify also as 2A.2c]	236200	
12D.1d	Other genetic defects		
12D.2	**Chromosomal defects**		M82.8
12D.3	**Endocrine disorders**		M82.0
12D.4	**Iatrogenic causes**		M81.4
12D.5	**Nutritional disorders**		M81.3
12D.6	**Chronic diseases**		M82.8
12D.7	**Malignancies**		M82.8

12D.8	**Disuse**		M81.2
12D.9	**Other specified disorders, e.g. muscle and neuromuscular disorders**	M81.8	
12D.10	**Idiopathic juvenile osteoporosis**		M81.5
12E	**HYPERCALCAEMI A**		E83.5
12E.1	**Disorders of the calcium-sensing receptor**		
12E.1a	Familial benign hypercalcaemia (familial hypocalciuric hypercalcaemia)	#145980	
12E.1b	Neonatal severe primary hyperparathyroidism	#239200	
12E.1c	Calcium-sensing receptor blocking antibodies		
12E.2	**Disorders of the parathyroid glands/PTH oversecretion**		E21
12E.2a	Disorders classified elsewhere: *Multiple endocrine neoplasia type 1* (14C.5a) *Multiple endocrine neoplasia type 2a* (14C.5b) *Multiple endocrine neoplasia type 2b* (14C.5c)		
12E.2b	Familial isolated hyperparathyroidism, type 1	#145000	E21.0
12E.2c	Familial isolated hyperparathyroidism, type 2 (jaw tumour)	#145001	E21.0
12E.2d	Sporadic parathyroid adenomas		E21.4
12E.2e	Parathyroid carcinomas		E21.4
12E.2f	Tertiary hyperparathyroidism		E21.4
12E.2y	Other PTH abnormalities (specified)		E21.4
12E.3	**PTH/PTHrP Receptor abnormalities**		
12E.3a	Metaphyseal chondrodysplasia,Jansen type	#156400	Q78.9
12E.4y	Other PTH/PTHrP receptor abnormalities (specified)		
12E.4	**Abnormal vitamin D metabolism**		
12E.4a	Disorders classified elsewhere: *Williams-Beuren syndrome* (14B.37)		
12E.4b	Idiopathic infantile hypercalcaemia	#19405	
12E.5	**Miscellaneous causes of hypercalcaemia in childhood**		E83.5
12E.5a	Vitamin D (or vitamin D metabolite) intoxication		E67.3
12E.5b	Sarcoidosis, other granulomatous diseases		D86.9
12E.5c	Immobilisation		E83.5
12E.5d	Hypercalcaemia of malignancy		E83.5
12E.5e	Subcutaneous fat necrosis		
12E.5f	Excessive calcium supplementation		
12E.5g	Congenital lactase deficiency	#223000	
12E.5h	Disaccharidase deficiency	#222900	
12E.5i	Endocrine forms (adrenal insufficiency, severe congenital hypothyroidism, thyrotoxicosis) *(primarily classified elsewhere)*		
12E.5j	Down syndrome	#190685	Q90
12E.5k	AIDS		B24
12E.5l	IMAGe syndrome	300290	
12E.5m	Hypophosphatasia	#241500	E83.3
12E.5y	Other specified disorders		
12E.5z	Other disorders (unspecified)		