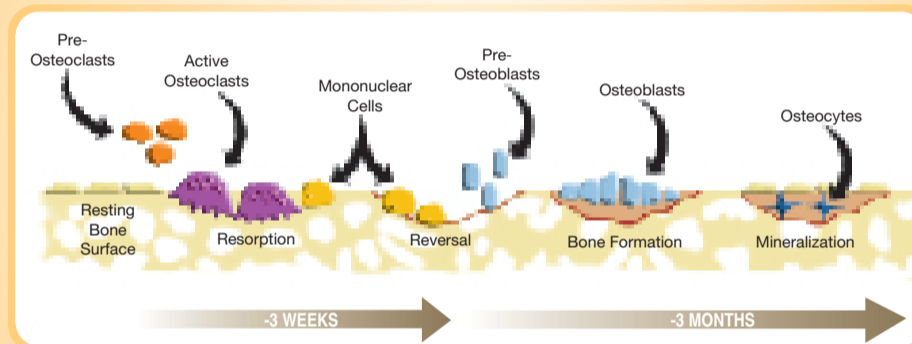




Bone Disorder

- Bone disorders are conditions that result in the impairment of normal bone function resulting in weak bones
- Osteoporosis, in particular, is an important public health problem affecting approximately 1 in 3 women and 1 in 8 men worldwide

Bone Remodeling Cycle



Bone Formation Markers

Bone G1a protein (BGP) (Osteocalcin)

- Increased levels are found in bone diseases (e.g. Paget disease of the bone, cancer accompanied by bone metastases, primary and secondary hyperparathyroidism, secondary osteosarcoma, renal osteodystrophy)
- Identifies women at risk of developing osteoporosis, for monitoring bone metabolism during perimenopause and postmenopause, and during antiresorptive therapy
- Serves as a useful index in evaluating the therapeutic management of the patient

Alkaline phosphatase, Bone specific

- Provides a general index of bone formation and a specific index of total osteoblast activity
- Increased in osteoporosis as well as in hyperthyroidism, osteomalacia, Paget's disease, primary hyperparathyroidism, and other metabolic bone diseases
- Increased by 77% in women within 10 years of menopause
- Useful for monitoring bone formation therapies

Bone Resorption Marker

Deoxypyridinoline (Pyrilinks-D)

- Pylilinks-D is a urinary assay that provides a quantitative measure of the excretion of deoxypyridinoline crosslinks as an indicator of bone resorption
- Elevated levels may be associated with increased bone loss, decreased bone mineral density and increased risk for bone fractures
- Levels are increased in osteoporosis, primary hyperparathyroidism, Paget's disease, hyperthyroidism, and metastatic bone cancer

Bone Resorption Marker

Para Thyroid Hormone (PTH) (Intact molecule)

- Discriminates primary hyperparathyroidism from tumor type hypercalcemia
- Diagnoses hypoparathyroidism
- Monitors severity of secondary hyperparathyroidism in chronic renal failure
- Assesses disorders of calcium metabolism

Bone biopsy

- Confirms the diagnosis of a bone disorder
- Evaluates bone pain or tenderness
- Determines the cause of an unexplained infection or inflammation
- Used to distinguish between malignant tumors and benign bone disease such as osteoporosis and osteomyelitis

1-25 Dihydroxy cholecalciferol

- Aids in the diagnosis of primary hyperparathyroidism, hypoparathyroidism, pseudohypoparathyroidism, renal osteodystrophy, vitamin D resistant rickets
- Increased in sarcoidosis and hyperparathyroidism, cases of hypercalcemia associated with malignant lymphoma
- Decreased in rickets, type I vitamin D-resistant rickets, hypoparathyroidism, pseudohypoparathyroidism, and renal osteodystrophy and psoriasis

Metropolis Bone Disorder Test Profiles

Bone profile

Calcium, Phosphorous, Alkaline phosphatase, Proteins, Uric acid

Osteoporosis profile (Maxi)

Calcium, Phosphorous, Alkaline phosphatase-total and bone fraction, Deoxypyridinoline (Pyrilinks-D), Osteocalcin, Vitamin D₃, Parathyroid hormone, Estradiol

Osteoporosis profile (Mini)

Calcium, Phosphorous, Alkaline phosphatase-total and bone fraction, Deoxypyridinoline (Pyrilinks-D)

Osteomyelitis profile

Bone biopsy (Culture and sensitivity), Blood culture and sensitivity

Rickets profile

1-25 Dihydroxy cholecalciferol, 25-Hydroxy cholecalciferol

Parathyroid panel

Parathyroid hormone (Intact molecule), Proteins, Magnesium, Alkaline phosphatase, Creatinine, Calcium (Total/Ionized)

Bone tumor profile

Bone biopsy for histopathophysiological examination and acid phosphatase, Bone profile (Calcium, Phosphorous, Alkaline phosphatase, Proteins, Uric acid)

Sources:

- Osteoporosis: Merck manual
- Bone Health and Osteoporosis: A Report of the Surgeon General; U.S. Department of Health & Human Services
- Osteoporosis: Laboratory Support of Risk Assessment and Management; Quest Diagnostics
- Laboratory Corporation of America
- J Bone Miner Res 11:1531-1538, 1996

Metropolis Health Services (India) Ltd.

#250 D, Udyog Bhavan (Behind Glaxo), Hind Cycle Marg, Worli, Mumbai - 400 030 Tel: +91-22-6650 5555. Fax: +91-22-6662 2080.

E-mail: support@metropolisindia.com. Web Site: www.metropolisindia.com

Metropolis Services also available at: Ahmedabad (Sanket Metropolis): 91-79-4020 9191/4020 9100-25 | Allappay (Metropolis): 91-477-320 4980 | Bangalore/Mangalore (Gokula Metropolis): 91-80-4052 8400/8440
Chennai/Cambatore (Lister Metropolis): 91-44-4205 5555/91-422-439 4949 respectively | Cochin (El Metropolis): 91-484-239 4923/24 | Kannur (Metropolis): 91-497-271 3048/49 | Kolkata (Metropolis): 91-33-6457 5120
Mumbai (Metropolis): 91-22-6650 5555 | Noida (Metropolis): 91-120-402 1700/99 | Perumbavoor (Metropolis): 91-484-3255 353/2590 288 | Pune (Galwiker Metropolis): 91-20-4100 8200 | Surat (Desai Metropolis): 91-261-247 0047/243 1680
Thirissur (Sudharma Metropolis): 91-487-2334 178/2323 488 | Sri Lanka (Nowaloka Metropolis): 94-11-5577 311 | UAE/Dubai (Star Metropolis): 971-4-348 7079 | South Africa (Taljoard Metropolis): 27-21-551 6372 | Thailand & Seychelles.
#NABL Accredited Laboratory | *CAP Accredited Laboratory | *CLIA Accredited Laboratory.

METROPOLIS
EXCELLENCE IN DIAGNOSTICS
For your health, nothing less will do