

Better Bone Health And

OSTEOPOROSIS

How to Prevent, Treat & Live with It ?



Patient Guide
Authentic Medical Facts



12,000+ Patients Treated Successfully



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POORVA ORTHOPAEDIC FOUNDATION

About Dr.Santosh Kumar



MBBS (JIPMER), D.ORTH (JIPMER); MCh ORTH (SCYHELLS)
 Head : Department of Computer Assisted Joint Replacement Surgery : BELLE VUE CLINIC
 JOINT REPLACEMENT SURGEON, ARTHRITIS FOUNDATION,INDIA
 Subspecialty- Knee Joint- Total Knee Replacement, Knee Arthroscopy.
 Fellowship in Joint Replacement, Max Hospital, New Delhi
 TRAINED IN COMPUTER ASSISTED JOINT REPLACEMENT FROM AUSTRIA
 Trained in Revision Knee and Hip Replacements
 Trained in Complex Joint Replacement from the DELTA FOUNDATION of AUSTRALIA

INTRODUCTION

Dr Santosh Kumar and his team are leading knee specialists in Kolkata. He is one of the best doctors in Knee replacement today. Knee replacements are routine in Kolkata (Calcutta) today and Dr Santosh Kumar has been instrumental in making international quality knee surgery affordable to the mass.

HE HAS EXPERIENCE OF MORE THAN TWO THOUSAND KNEE REPLACEMENTS



GRADUATION

MBBS – from Jawaharlal Institute of Post Graduate Medical Education and Research (JIPMER, Pondichery) Directorate General of health Services, Govt. of India from 1995 to 2001.

HOUSE JOB in Department of Orthopedics, JIPMER from April 2001 to June 2002.

POST GRADUATION

D Orth from Jawaharlal Institute of Post Graduate Medical Education and Research (JIPMER, Pondichery) Directorate General of health Services, Govt of India from 1st April to 31st March 2005.

BONE BANK JIPMER

In charge bone bank JIPMER from April 2004 to March 2005. TRAUMA COURSE online of ADVANCED TRAUMA LIFE SUPPORT at CMC Vellore January 2005.

Clinical Research Fellow in Orthopaedic Oncology at JIPMER Hospital from April 2005 to June 2005.

REDISTRAR ORTHOPEDICS

Whole time registrar in Orthopaedics at Bhattacharyya Orthopaedics and Related Research Center (P) Ltd., Narayanpur, Kolkata – 136 from 1st July 2005 to 31st June 2007.

MCh ORTH

Passed MCh ORTH from the University of Seychelles American Institute of Medicine, March 13th 2008.

MCh Thesis : a study into the controversial aspects of interlocking nail of femur.

TRAINING

DELTA COURSE for advanced aspects of complex primary and REVISION knee replacement. At MAX Hospital, New Delhi in Sept, 2008.

FELLOWSHIP in KNEE REPLACEMENT in Max Hospital, New Delhi from Sept, 2008 with Dr. S.K.S. Marya for total of 54 knee replacement surgeries.

AO SPINE Training in Bombay July 2009.

AO TRAUMA Training 8th to 10th Oct, 2009, Kanpur

DELTA COURSE for Advanced Aspects of Complex Primary and Revision Knee Replacement, at SUN SHINE Hospital, Hyderabad in Nov, 2009.

Ranawat joint replacement course in Jan 2010 Kolkata

Trained in complex joint replacements, at Bangkok. Jan 2011 by DEPUY institute at Bangkok

Trained in revision joint replacements by DE PUY institute at Chennai, June 2011.

Medtronic Academy course in cervical spine in October 2011

Trained in computer assisted knee replacement at Fortis Chandigarh in Jan 2012

AO advanced trauma course in March 2012 at Kolkata

TRAINING [continued]...

Trained in complex joint replacements in USA , PHOENIX, by KLEOS foundation (Smith and Nephew educational body) April 2012

Trained in minimally invasive spine surgery by Medtronic Academy foundation May 2012

Trained in computer assisted navigation technology for knee replacement in Vienna Austria, in June 2012.

PAPERS PUBLISHED / PRESENTED

Bilateral fracture dislocation of Hip, pipkin 1 – its management and the result – published in the West Bengal journal of orthopaedics – vol 20, number 2, September 2006, myself as Primary author.

The role of total hip replacement in ankylosing spondylitis patients – under consideration for publication in the Indian journal of orthopaedics.

OPPONENSPLASTY – a method to reconstruct the post polio paralytic thumb – presented at the midcon 2005, West Bengal Orthopaedic Association.

Follow up of 24 total hip replacements in ankylosing spondylitis patients presented at the annual conference of the West Bengal Orthopedics Association 2006.

AWARDS RECEIVED :

Dr.Santosh Kumar received Certificate of International Excellence in Minimally Invasive Computer Assisted Joint Replacement Surgery by the ASCULAP ACADEMY, Germany



Titles

OSTEOPOROSIS

How to Prevent, Treat & Live with it ?

Part A

1. Osteoporosis : An Intro.
2. Incidence
3. Symptoms
4. Causes
5. Risk Factors
6. Osteoporosis Fracture
7. Diagnosis
 1. Bone Mineral Density
 2. DEXA
 3. CT Scan
 4. X Rays
8. Goals of Osteoporosis Treatment
9. Stop Unhealthy Habits
10. Prevent Falls
11. Diet & Food
12. Exercises
13. Medications
14. Hormone Replacement Therapy
15. Parathyroid Hormone
16. Monitoring Progress
17. Vertebroplasty
18. Kyphoplasty
19. The Good News for Patients
20. Patient Testimonial

Part B

21. Other Patients' Experiences
22. For Outstation Patients
23. For International Patients
24. For Corporate Patients
25. For Communities / Institutions
26. What the Press / Media says
27. Cashless Mediclaim Facility
28. The Fees
29. Online Consultation / Video Conference
30. About The Doctor / Surgeon
31. About the Foundation
32. Contact Details



SECTION A

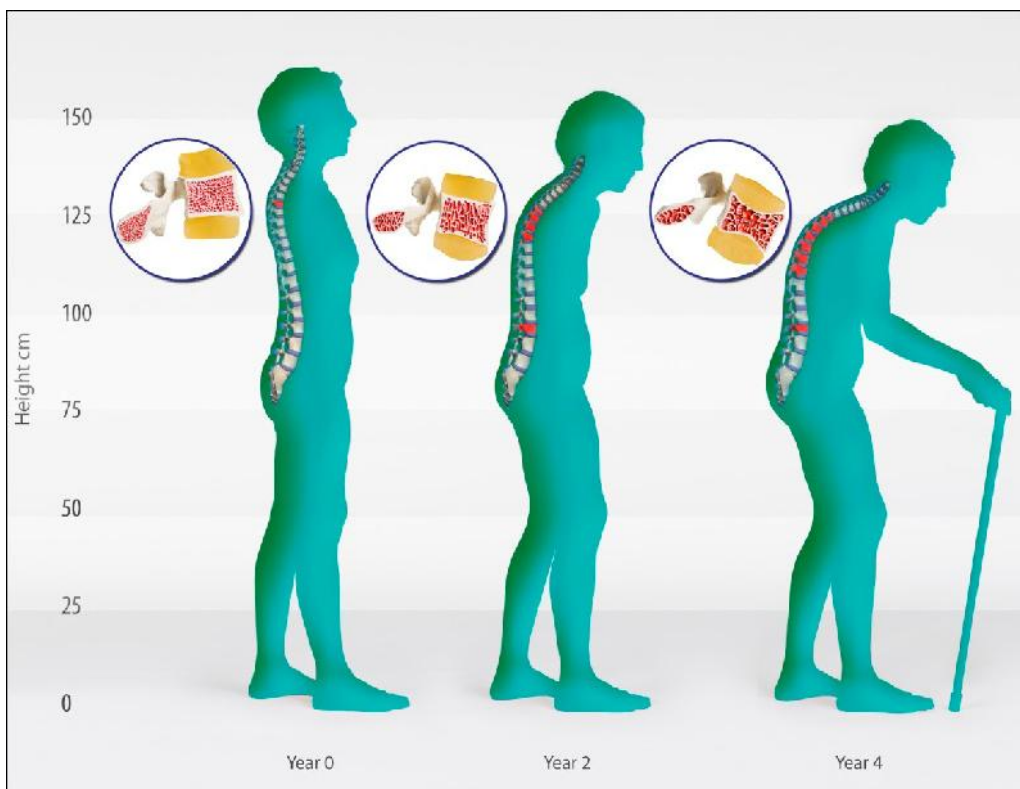


Osteoporosis : An Intro.

Osteoporosis is a condition that weakens bones, making them fragile and more likely to break.

It's a fairly common condition that affects around three million people in the UK. More than 300,000 people receive hospital treatment for fragility fractures (fractures that occur from standing height or less) every year as a result of osteoporosis. Wrist fractures, hip fractures and fractures of the vertebrae (bones in the spine) are the most common type of breaks that affect people with osteoporosis. However, they can also occur in other bones, such as in the arm, ribs or pelvis.

There are usually no warnings you've developed osteoporosis and it's often only diagnosed when a bone is fractured after even minor falls.



Incidence

- Worldwide, osteoporosis causes more than 8.9 million fractures annually, resulting in an osteoporotic fracture every 3 seconds.
- Osteoporosis is estimated to affect 200 million women worldwide - approximately one-tenth of women aged 60, one-fifth of women aged 70, two-fifths of women aged 80 and two-thirds of women aged 90..
- For the year 2000, there were an estimated 9 million new osteoporotic fractures, of which 1.6 million were at the hip, 1.7 million were at the forearm and 1.4 million were clinical vertebral fractures.
- Worldwide, 1 in 3 women over age 50 will experience osteoporotic fractures, as will 1 in 5 men aged over 50.
- 80%, 75%, 70% and 58% of forearm, humerus, hip and spine fractures, respectively, occur in women. Overall, 61% of osteoporotic fractures occur in women, with a female-to-male ratio of 1.6.
- Nearly 75% of hip, spine and distal forearm fractures occur among patients 65 years old or over.
- A 10% loss of bone mass in the vertebrae can double the risk of vertebral fractures, and similarly, a 10% loss of bone mass in the hip can result in a 2.5 times greater risk of hip fracture.
- By 2050, the worldwide incidence of hip fracture in men is projected to increase by 310% and 240% in women.
- The combined lifetime risk for hip, forearm and vertebral fractures coming to clinical attention is around 40%, equivalent to the risk for cardiovascular disease.
- Osteoporosis takes a huge personal and economic toll. In Europe, the disability due to osteoporosis is greater than that caused by cancers (with the exception of lung cancer) and is comparable or greater than that lost to a variety of chronic noncommunicable diseases, such as rheumatoid arthritis, asthma and high blood pressure related heart disease.
- A prior fracture is associated with an 86% increased risk of any fracture.
- Although low BMD confers increased risk for fracture, most fractures occur in postmenopausal women and elderly men at moderate risk.
- In women over 45 years of age, osteoporosis accounts for more days spent in hospital than many other diseases, including diabetes, myocardial infarction and breast cancer.
- Evidence suggests that many women who sustain a fragility fracture are not appropriately diagnosed and treated for probable osteoporosis.
- The great majority of individuals at high risk (possibly 80%), who have already had at least one osteoporotic fracture, are neither identified nor treated.
- An IOF survey, conducted in 11 countries, showed denial of personal risk by postmenopausal women, lack of dialogue about osteoporosis with their doctor, and restricted access to diagnosis and treatment before the first fracture result in underdiagnosis and undertreatment of the disease.



Symptoms

Osteoporosis develops slowly over several years.

There are often no warning signs or symptoms until a minor fall or a sudden impact causes a bone fracture.

Healthy bones should be able to withstand a fall from standing height, so a bone that breaks in these circumstances is known as a fragility fracture.



The most common injuries in people with osteoporosis are:

- wrist fractures
- hip fractures
- fractures of the spinal bones (vertebrae)

Sometimes a cough or sneeze can cause a rib fracture or the partial collapse of one of the bones of the spine.

In older people, a fractured bone can be serious and result in long-term disability. For example, a hip fracture may lead to long-term mobility problems.

Although a fracture is the first sign of osteoporosis, some older people develop the characteristic stooping (bent forward). It happens when the bones in the spine have fractured, making it difficult to support the weight of the body.



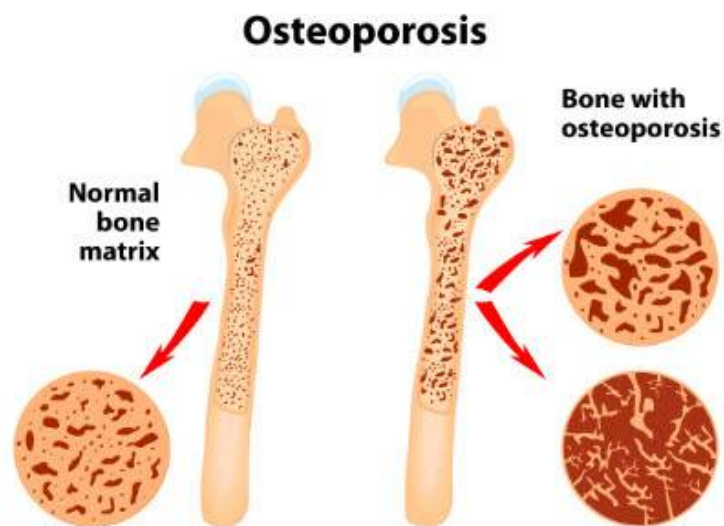
Causes

During childhood, bones grow and repair very quickly, but this process slows as you get older. Bones stop growing in length between the ages of 16 and 18, but continue to increase in density until you're in your late 20s. You gradually start to lose bone density from about 35 years of age. Women lose bone rapidly in the first few years after the menopause (when monthly periods stop and the ovaries stop producing an egg).

Losing bone is a normal part of the ageing process, but for some people it can lead to osteoporosis and an increased risk of fractures.

Other factors that increase your risk of developing osteoporosis include:

- inflammatory conditions, such as rheumatoid arthritis, Crohn's disease and chronic obstructive pulmonary disorder (COPD)
- conditions that affect the hormone-producing glands, such as an overactive thyroid gland (hyperthyroidism) or an overactive parathyroid gland (hyperparathyroidism)
- a family history of osteoporosis, particularly history of a hip fracture in a parent
- long-term use of certain medications that affect bone strength or hormone levels, such as oral prednisolone
- malabsorption problems
- heavy drinking and smoking



Risk Factors

Many hormones in the body can affect the process of bone turnover. If you have a condition of the hormone-producing glands, you may have a higher risk of developing osteoporosis.

Hormone-related conditions that can trigger osteoporosis include:

- hyperthyroidism (overactive thyroid gland)
- disorders of the adrenal glands, such as Cushing's syndrome
- reduced amounts of sex hormones (oestrogen and testosterone)
- disorders of the pituitary gland
- hyperparathyroidism (overactivity of the parathyroid glands)

Other risk factors

Other factors thought to increase the risk of osteoporosis and broken bones include:

- a family history of osteoporosis
- a parental history of hip fracture
- a body mass index (BMI) of 19 or less
- long-term use of high-dose oral corticosteroids (widely used for conditions such as arthritis and asthma), which can affect bone strength
- having an eating disorder, such as anorexia or bulimia
- heavy drinking and smoking
- rheumatoid arthritis
- malabsorption problems, as experienced in coeliac disease and Crohn's disease
- some medications used to treat breast cancer and prostate cancer which affect hormone levels
- long periods of inactivity, such as long-term bed rest



Osteoporosis Fracture

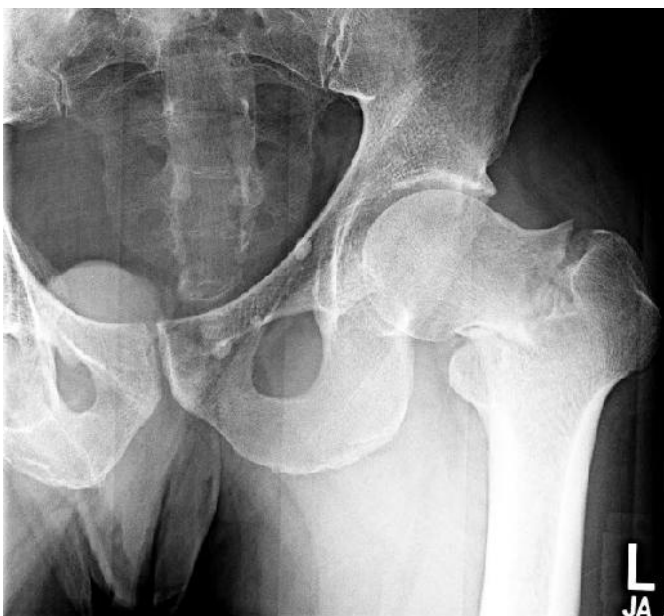
The main morbidity of Osteoporosis is Fractures

Previous fractures are strong predictors of future fractures

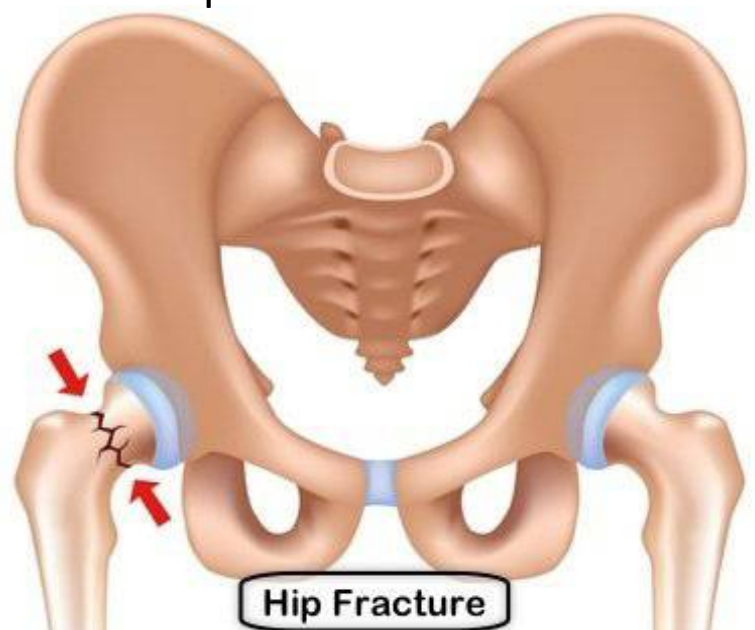
Overall: 46% vertebral fractures; 16% hip fractures; 16% wrist fractures

Striking Features of a vertebral fractures

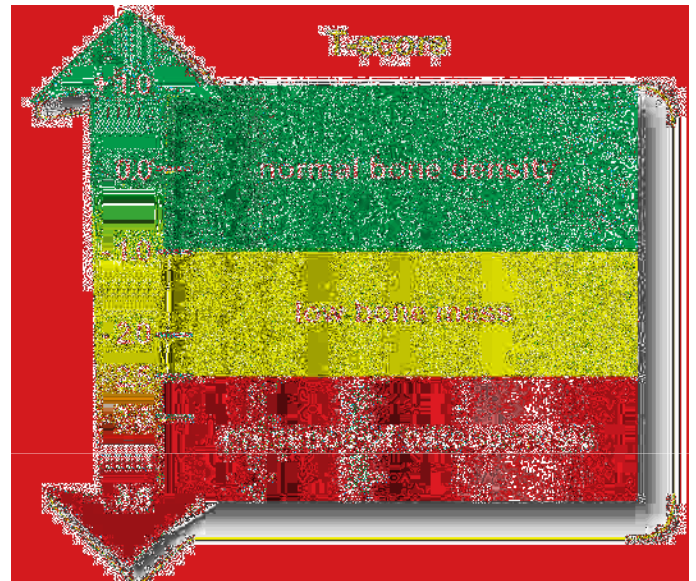
- Back pain with little or no exertion
- Acute and severe pain or chronic lower-grade back pain
- Pain localized to specific vertebra
- Pain may radiate in-front.
- Pain associated with limited back mobility
- Pain relieved by bed rest; worsened when upright, coughing, sneezing
- Point tenderness over specific vertebra
- Paravertebral muscles tender to touch secondary to spasm
- Pain slowly decreases in intensity (weeks to months)
- Limited back flexion
- Overall Height loss > 2cm or historical height loss > 4cm



Hip Joint Fracture



Diagnosis of Osteoporosis



DEXA studies

The gold standard in the diagnosis of osteoporosis. Highest accuracy, Precision, resolution. It measures the bone density in all bones. It has a short scanning time, reducing the radiation problems.

QCT studies

Computed quantitative tomography (QCT) , is the CT evaluation of the bone mass. It calculates the bone mass of Spine, Hip and forearm. The amount of radiations are more.

Ultrasound

The ultrasound attenuation is used to determine the bone density. It's a good screening test, as it is cheap, no harmful radiation and gives us a rough guidance to select the population at risk. It calculates the bone density in Heel, Patella, Tibia and forarm.

High resolution p-QCT

Takes into account the Tibia and the forarm.



Goals of Osteoporosis Treatment

The goals of treatment are four-fold:

- (1) reduce bone loss,**
- (2) prevent fracture,**
- (3) control pain, and**
- (4) prevent disability.**



Stop Unhealthy Habits

Here are a few avoidable habits that can affect the wellness of your bone health, as listed below:

Inadequate intake of calcium

Calcium should be adequately consumed in your diet to keep your bones healthy and maintain normal blood calcium levels. When there is insufficient calcium in your body, the hypothalamic gland increases its secretion in order to maintain the right levels in the blood, and in doing so, removes calcium from your bones. This also happens during pregnancy and breastfeeding, which is why more calcium is required during these times.

Fad diets? Fewer nutrients!

Fad diets typically contain fewer calories. This in turn means less calcium and other essential nutrients needed for healthy bones!

Low sun exposure

The sun is one of main sources of vitamin D in addition to cod liver oil and vitamin D-fortified milk. Vitamin D increases calcium and phosphorous absorption, enhances their uptake by the bones, and keeps their levels stable in the blood. A continued shortage of vitamin D can lead to osteoporosis in the future.

Lack of exercise and activity

Exercise increases calcium and phosphorous mineralization in bones, which in turn reduces the risk of developing weak bones.

Smoking

Smoking decreases bone mass, leads to osteoporosis and increases the risk of bone breakage.

Drinking carbonated beverages

A popular controversy focused on the content of phosphoric acid in carbonated beverages and its effect on bone health. However, recent studies have shown that with adequate calcium in a diet the net effect of phosphoric acid on bones is negligible. The negative effect of drinking carbonate beverages and bone density is because they replace other healthier beverages like milk and fresh fruit juices.

Excessive salt in food

Sodium and calcium are excreted together from the body through the kidneys, so the more salt you add, the more it increases calcium loss.



Prevent Falls

At any age, people can make changes to lower their risk of falling. Some tips to help prevent falls outdoors are:

- Use a cane or walker
- Wear rubber-soled shoes so you don't slip
- Walk on grass when sidewalks are slick
- Put salt or kitty litter on icy sidewalks.



Some ways to help prevent falls indoors are:

- Keep rooms free of clutter, especially on floors
- Use plastic or carpet runners
- Wear low-heeled shoes
- Do not walk in socks, stockings, or slippers
- Be sure rugs have skid-proof backs or are tacked to the floor
- Be sure stairs are well lit and have rails on both sides
- Put grab bars on bathroom walls near tub, shower, and toilet
- Use a nonskid bath mat in the shower or tub
- Keep a flashlight next to your bed
- Use a sturdy stepstool with a handrail and wide steps
- Add more lights in rooms
- Buy a cordless phone so that you don't have to rush to the phone when it rings and so that you can call for help if you fall.

You can also do exercises to improve your balance. While holding the back of a chair, sink, or counter:

- Stand on one leg at a time for a minute and then slowly increase the time. Try to balance with your eyes closed or without holding on.
- Stand on your toes for a count of 10, and then rock back on your heels for a count of 10.
- Make a big circle to the left with your hips, and then to the right. Do not move your shoulders or feet. Repeat five times.



Diet & Food

The Osteoporosis Diet: Calcium, Vitamin D, and More

These dietary recommendations can help people who have osteoporosis:

Get your recommended daily dose of calcium. Calcium is key to maintaining healthy bones. Dietary supplements are an option, but it is best to try to get calcium through the foods you eat if possible; your doctor will tell you if you should do both. Adults should aim for 1,000 milligrams (mg) of calcium per day, but if you are over age 50, you need 1,200 mg of calcium every day, 1,300 mg after menopause. However, no need to overdo it: According to one study, getting more calcium than is recommended doesn't have much benefit. Good food sources of calcium include:

- Low-fat dairy products such as skim milk or ricotta cheese
- Canned sardines in oil with bones
- Calcium fortified juices and other foods
- Dark, leafy green vegetables

Simply adding some cheese or broccoli to your dinner plate can improve the bone healthiness of your meal. Dairy remains the best source of calcium, which poses a problem for people who are lactose intolerant. Yogurt may be an option for you if you're lactose intolerant, as it is often better tolerated than other dairy products. Taking a supplement called lactase enzyme with dairy products can also help some people who are lactose intolerant to digest.

Get the recommended daily amount of vitamin D. Vitamin D helps your body use the calcium you eat. The best source of vitamin D is natural sunlight — 15 minutes in the sun without sunscreen is all you need each day. However, people who should not be exposed to direct sunlight, such as skin cancer patients, can get vitamin D from supplements. Aim for about 400 to 800 IU a day (some doctors recommend higher doses). There are few foods with vitamin D, though some cereals and juices come fortified with the vitamin. Other choices include:

- Salmon, tuna, mackerel, sardines
- Egg yolks
- Fortified dairy products such as milk

Eat fresh produce. Your bone health relies on a varied diet containing many different vitamins and minerals. Aim to eat a rainbow of colors when it comes to fruits and vegetables. As an additional benefit, a study of 171 adults showed that those whose diets were more alkaline, which can be achieved by eating more fruits and vegetables, retained more calcium.



Exercises for Osteoporosis

One of the best ways to strengthen your bones and prevent osteoporosis is by getting regular exercise. Even if you already have osteoporosis, exercising can help maintain the bone mass you have.

The Reason for Exercise for Osteoporosis

When you exercise, you don't just build muscle and endurance. You also build and maintain the amount and thickness of your bones. You may hear health professionals call this "bone mass and density."

Three types of exercise for osteoporosis are:

Weight-bearing, Resistance, Flexibility

Weight-bearing Exercise for Osteoporosis

Weight-bearing means your feet and legs support your body's weight. A few examples of weight-bearing exercise for osteoporosis are: - Walking, - Hiking, - Dancing, - Stair climbing

Sports like bicycling and swimming are great for your heart and lungs. However, these are not weight-bearing exercise for osteoporosis. That's because you are being held up by something other than your feet and legs, such as the bicycle or the water.

Walking as little as three to five miles a week can help build your bone health. For general health, most experts recommend that everyone get at least half an hour of moderate to vigorous exercise five times a week. Forty-five minutes to an hour is even better.

Resistance Exercise for Osteoporosis

Resistance means you're working against the weight of another object. Resistance helps with osteoporosis because it strengthens muscle and builds bone. Studies have shown that resistance exercise increases bone density and reduces the risk of fractures.

Resistance exercise for osteoporosis includes:

Free weights or weight machines at home or in the gym. Resistance tubing that comes in a variety of strengths. Water exercises -- any movement done in the water makes your muscles work harder.

For best results, do resistance exercises two or three times a week. Make the exercise more challenging by gradually adding weight or repetitions. Work all your different muscles -- including arms, chest, shoulders, legs, stomach, and back. Be sure not to do resistance training on the same muscle group two days in a row. Give each muscle group time to recover.

Flexibility Exercise for Osteoporosis

Flexibility is another important form of exercise for osteoporosis. Having flexible joints helps prevent injury.

Examples of flexibility exercise for osteoporosis include these: Regular stretches, T'ai chi, Yoga Making Exercise for Osteoporosis Safe

Many people worry about the safety of exercise later in life. You may be concerned if you already have osteoporosis or osteopenia. Perhaps you have never been very physically active. Whatever your concern, you can choose from a range of safe exercise options.

To ensure your safety during exercise for osteoporosis, keep these guidelines in mind:

- Talk to your doctor before beginning any exercise program. This is especially important if you know you have bone loss or osteoporosis.

- Weight-bearing exercise does not have to be high impact. Running, jogging and jumping may put stress on your spine. These high-impact activities may lead to fractures in weakened bones. If you already have bone loss, choose gentler weight-bearing exercise like walking, dancing, low-impact aerobics, and gardening.

- If you already have osteoporosis, be careful of exercises that involve bending and twisting at the waist. This motion can put you at risk of fracture. Exercises that involve waist twisting include sit-ups, toe touches, and rowing machines. Golf, tennis, bowling, and some yoga poses also include some twisting at the waist.

Talk to your doctor before choosing any of these activities.



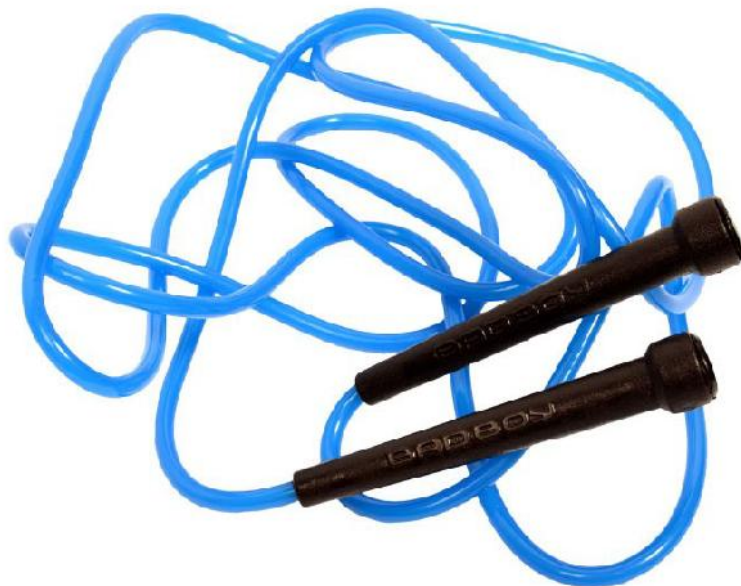
Exercises To Avoid

Some forms of exercise may increase your risk of breaking a bone and may not be suitable for people already at high risk of fracture.

Avoid: High-impact, fast - moving exercises such as jumping, running, jogging or skipping. These activities increase compression in your spine and lower extremities and can lead to fractures in weakened bones.

Avoid jerky, rapid movements in general. Choose low-impact exercises with controlled movements such as side-stepping, knee lifting and so on.

Avoid: Exercises in which you bend forwards and twist your waist, such as touching your toes or doing sit-ups. These movements put pressure on the bones in your spine, increasing your risk of further compression fractures.



Some Common Medications

Bisphosphonates are the most common medications prescribed for osteoporosis treatment.

These include:

- Alendronate (Fosamax)
- Risedronate (Actonel)
- Ibandronate (Boniva)
- Zoledronic acid (Reclast)



Denosumab (Prolia) is a newer medication shown to reduce the risk of osteoporotic fracture in women and men. Unrelated to bisphosphonates, denosumab might be used in people who can't take a bisphosphonate, such as some people with reduced kidney function.

Teriparatide (Forteo) is typically reserved for men and postmenopausal women who have very low bone density, who have had fractures or whose osteoporosis is caused by steroid medication. Teriparatide is the only osteoporosis medication that has the potential to rebuild bone and actually reverse osteoporosis, at least somewhat.

No matter what drug therapy you choose, remember that a diet rich in calcium and vitamin D is required to maintain healthy bones.

PS : Medications should be strictly taken only as per the advice of your doctor.



Hormone Replacement Therapy

Hormones, such as estrogen, and some hormone-like medications approved for preventing and treating osteoporosis, such as raloxifene (Evista), also play a role in osteoporosis treatment.

However, fewer women use estrogen replacement therapy now because it may increase the risk of heart attacks and some types of cancer.

Still, women who have reasons — such as menopausal symptoms — to consider using hormones or who are considering using Evista for breast cancer prevention, can weigh the benefit of improved bone health into their decision.



Parathyroid Hormone

Parathyroid hormone (PTH) and its analogue, teriparatide, are a new class of osteoporosis treatments called bone formation agents. Teriparatide injection (Forteo) is the first medication approved by FDA in this new class.

How does teriparatide injection work?

The mechanism by which bone is constantly renewed is called bone remodelling. Teriparatide injection works in a novel way on the bone remodelling process so that new bone is generated and added to the skeleton faster than old bone is broken down. It does this by activating the osteoblast (bone-building) cells.

How effective is it?

Teriparatide injection has been shown to increase bone density and reduce the risk of both vertebral fractures and other fractures associated with osteoporosis.

Who can take it?

It is used for the treatment of postmenopausal women with severe osteoporosis who are at high risk of fracture or who have failed or are intolerant to previous osteoporosis therapy. It is also used to increase bone mass in men with primary or hypogonadal (low testosterone) severe osteoporosis who have failed or are intolerant to previous osteoporosis therapy. It is also indicated for the treatment of osteoporosis associated with sustained systemic glucocorticoid therapy in men and women who are at increased risk of fracture.

How is it taken?

It is taken as a sub-cutaneous injection into the thigh or abdominal wall, 20 mcg (micrograms) once a day. This medication should not be taken for longer than 24 months.

Are there side effects?

Possible side effects include dizziness, nausea and leg cramps.



Monitoring Progress

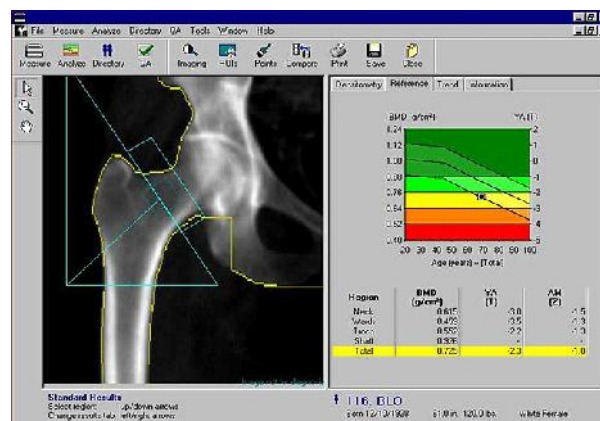
A final, important component of any osteoporosis treatment plan is regular monitoring and follow-up to ensure that the treatment plan is working effectively and make adjustments as necessary. Both follow-up bone density testing and physician checkups are recommended.

Periodic Bone Density Testing

Some doctors recommend periodic bone density testing, usually DEXA bone scans, such as every 1 to 2 years for people diagnosed with osteoporosis or at risk for developing osteoporosis. Periodic DEXA scans for these patient populations allow both:

- Overall assessment of the change in the patient's bone density and whether he or she is considered to have low bone mass or full blown osteoporosis, and;
- Monitoring of the effectiveness of osteoporosis treatments, which informs the physician if the patient's osteoporosis medications and lifestyle changes are effective in slowing bone loss and/or rebuilding bone mass.
- The use of DEXA bone scans to monitor treatment is considered by some to be controversial, because the change in bone density over time is slow and can be less than the error rate of the machine itself.
- The use of periodic bone density testing in an individual patient's treatment will depend on the preference of the treating physician, the coverage by the patient's insurance company or by Medicare, and by the patient's overall risk for osteoporosis.

Women taking estrogen should have routine mammograms, pelvic exams & pap smears

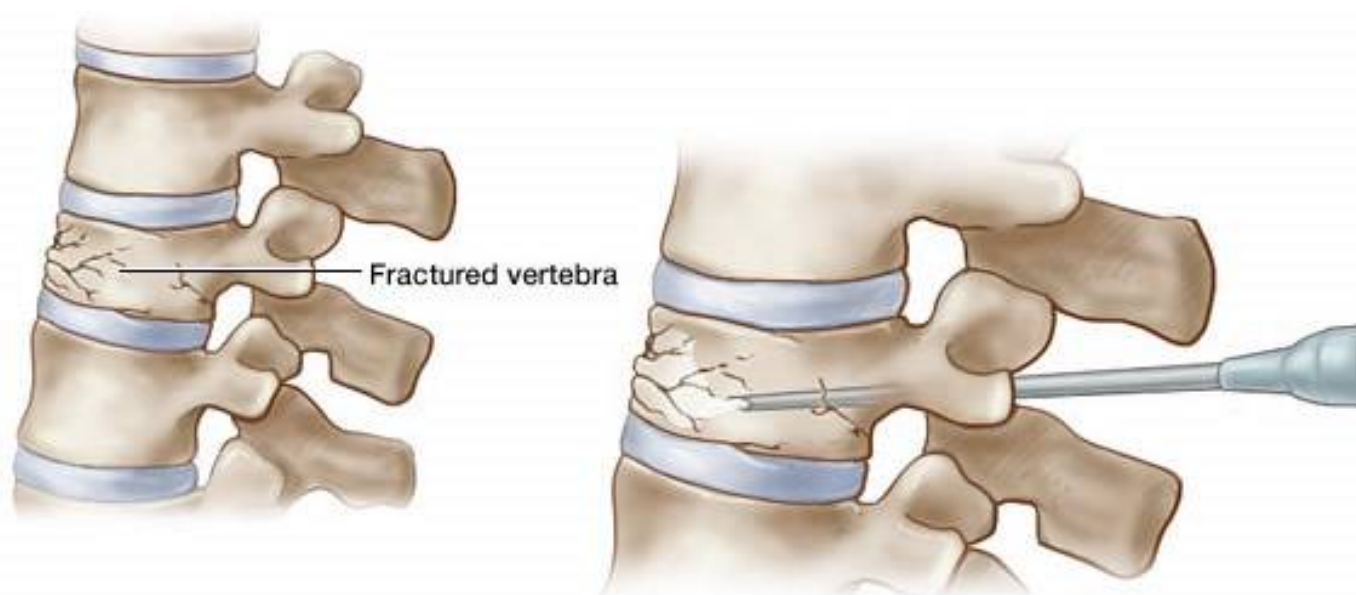


Vertebroplasty

When a painful fracture from osteoporosis occurs in the spine, a procedure called vertebroplasty may be considered.

Vertebroplasty is a minimally invasive treatment option designed to help reduce or eliminate pain caused by collapsed vertebra. With this procedure, low viscosity cement is injected directly into the collapsed vertebral body under high pressure, with the goal of stabilizing the fracture and relieving the associated pain (caused by spinal bones rubbing together).

Vertebroplasty can also help prevent further collapse of the vertebra and thus helps prevent further deformity (such as spine curvature and/or loss of height). This procedure was developed in France in 1984 and was first introduced in the U.S. in 1994.

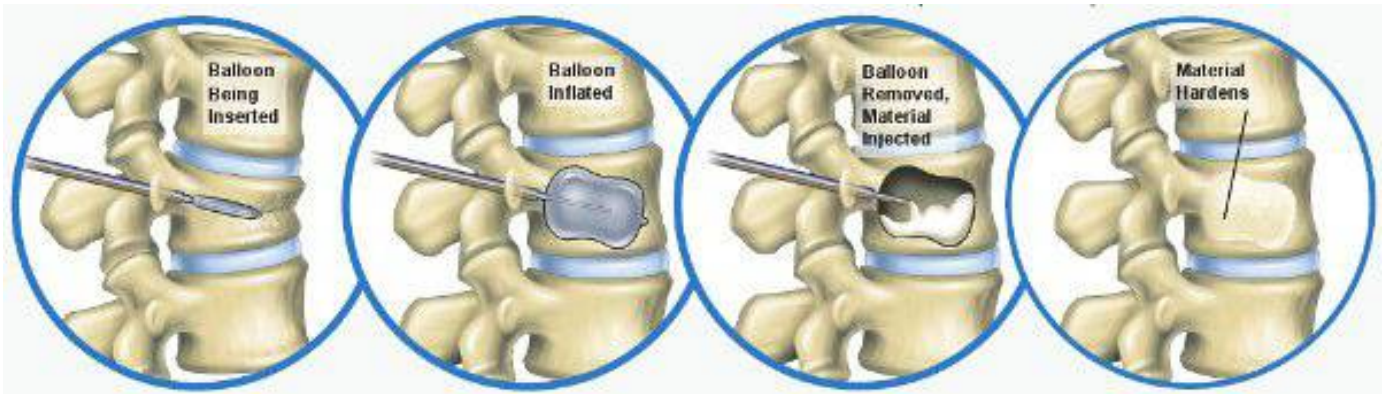


Quick setting bone cement injected into fractured vertebra



Kyphoplasty

Kyphoplasty is a procedure which is similar to vertebroplasty except it involves inserting a balloon into the vertebra and slowly inflating it to create a space in the bone. The balloon is then deflated and the space is filled with bone cement. As with vertebroplasty, kyphoplasty is also used to relieve the pain of spinal compression fractures associated with osteoporosis. It may also improve the shape of the bone although, in practice, for most people there is unlikely to be any noticeable change in body height. Both vertebroplasty and kyphoplasty are procedures that are used to help relieve pain due to fractures.



FACILITIES

State of the art Equipments & Advanced Diagnostic & Surgical Facilities are available here



Rehabilitation

After you have been treated for your condition, we want to ensure that you heal properly and regain strength. Our rehabilitation team will work with you in a private setting, at your own pace and comfort level, so that you can return to your daily lifestyle. Through exercises and training, our certified physical therapy team is here to help you get back to the things you love.

Your post operative care takes place here



The Good News for Patients

The good news about osteoporosis is that to a large extent it is preventable and treatable.

However, an individual's personal plan to prevent and treat osteoporosis may include multiple components and challenging lifestyle changes. In order for osteoporosis prevention and treatment to be successful, the patient will need to practice diligent follow-through and seek regular care by the treating physician or healthcare team. This may be accomplished by incorporating a discussion, exam and diagnostic tests focused on bone mass into the patient's regular annual exam, or by scheduling a periodic appointment focused solely on bone mass/osteoporosis. The key is making sure that follow-up takes place so that the elements of the osteoporosis prevention and treatment plan can be adjusted as needed to slow/stop bone loss to the maximum extent possible. The single most important thing to remember is that even after osteoporosis has been diagnosed ***it is possible to slow bone loss and build bone density.*** **Those at increased risk for osteoporosis do not have to accept the disease and the risk of osteoporosis-related fractures as their inevitable fate.**



An Osteoporosis Patient Story

After several years of extreme pain, Patient A [name withheld] was diagnosed with osteoporosis. She was 55 years of age. She had been to numerous doctors and had many X-rays before a diagnostic DXA scan finally revealed the cause of her pain and immobility. She received treatment, which quickly had beneficial effects. Although some of her back-pain still remains due to damage that is irreversible, she now **enjoys freedom of movement and has regained much of her quality of life.**



SECTION B



What The Press Says : Set 1

THE TIMES OF INDIA

21 November, 2013

New surgery boon for knee patients

TIMES NEWS NETWORK

Kolkata: The periods of hospitalization and recovery for knee-replacement surgery patients have come down significantly, thanks to improved techniques and quality implants. Such surgery was conducted on three patients at Belle Vue Clinic on Wednesday.

Earlier, a knee replacement surgery meant at least six days of post-operative hospitalization and the patient would be able to walk only four days later. But now, patients can stand up within hours of the surgery and start walking on the second day.

While doctors in the city have been performing minimally invasive surgery for quite some time now, minimally invasive computer-assisted total knee arthroplasty was performed on three patients — Sambhunath Bit (52), Meera Devi Chowdhury (65) and Chhaya Chattopadhyay (72) — at Belle Vue on Wednesday.

“Computer-assisted total knee arthroplasty and minimally invasive surgeries have been performed in the city, but independently. Minimally invasive



A patient after surgery

computer-assisted total knee arthroplasty is being done in Belle Vue Clinic for the first time in eastern India,” said Dr Santosh Kumar who performed the surgery on one of them live, on Wednesday.

The conventional procedure enabled the patient to stand up on the third day of surgery, walk on the fourth day and get discharged from the hospital either on the fifth or the sixth day. But minimally invasive surgery enables the patient to stand within a few hours of the surgery, walk on the second day and walk out of the hospital on the third.

The Telegraph METRO

20th January, 2013

Tech boost for surgery

OUR SPECIAL CORRESPONDENT

Hip and knee replacement surgeries in the city will now be more precise and less risky with a new computer-navigated technique that can tell from outside the exact position of bones and the alignment of ligaments.

Belle Vue Clinic on Monday claimed to be the first in the city to introduce the “fourth generation” machine from Germany. The new technique will make the surgeries at least 10 minutes longer. “It has more checks and balances and so it takes more than the standard one-and-a-half hours for other

computer-assisted procedures,” said Santosh Kumar, orthopaedic surgeon and head of the joint replacement surgery unit at Belle Vue.

Computer-navigated surgeries have been conducted in Calcutta since 2006, but the German technology promises to increase the accuracy of knee-replacement surgeries from around 80 per cent to up to 95 per cent, say doctors.

The machine maps the position of bones in the knee joint using sensors. These sensors create a detailed image and provide information on a computer screen that help the surgeon install the implant. “The equipment not only

takes into account the bones but also aligns soft tissues like ligaments. So there is less chance of damage to ligaments and other uncertainties too,” Kumar pointed out.

Buddhadeb Chatterjee, orthopaedic surgeon with Apollo Gleneagles Hospitals, said the software would make things easier for surgeons. “Steps like bone registration are not required. Bone registration is a process in which pointers are rubbed on the bones and the images are transferred to the computer through infrared,” said Chatterjee.

He said the software was more precise and therefore better results were expected.

THE ASIAN AGE

21 November, 2013

Advanced knee surgery raises patients' hopes

AGE CORRESPONDENT KOLKATA, NOV. 20

For the first time in eastern India, Minimally Invasive Computer-Assisted Total Knee Arthroplasty (MICA-TKA) surgery was performed on three patients on Wednesday. The knee surgery reduces recovery time for patients.

The surgeries were performed at Belle Vue Clinic under the supervision of Dr Santosh Kumar. Interestingly, the live surgery performed on the knee of 72-year-old Chhaya

Chatterjee was shown on a giant screen at the clinic. It was a unique way to introduce one of the best medical advancements.

This latest (MICA-TKA) procedure enables patients to stand up on his feet on the same day of the surgery, climb the stairs on the second day and are released on the third day. While the conventional procedure takes at least seven days' time for the knee of a patient to function properly.

According to Dr Kumar, the knee transplant is use-

ful for professionals who need a high performing knee.

“The surgery results in fantastic tackling of knee cap bone which leads to improved and full knee bending.

“With this knee transplant, people now will be able to use public transport, indulge in sports activities and lead a normal life,” said Dr Santosh Kumar, who is also the head of the clinic's Computer-Assisted (Navigated) Joint Replacement Centre.

The Statesman

KOLKATA, THURSDAY 21 NOVEMBER 2013

Urgent joint replacement at prominent city hospital

STATESMAN NEWS SERVICE Kolkata, 20 November

Good news awaits for people requiring urgent joint replacement and expecting a speedy recovery. The Belle Vue Clinic has introduced a minimally invasive procedure, which would take one and a half hours to conduct knee surgeries and more importantly the patient would be able to stand on his feet on the same day of the surgery.

A team of doctors led by Dr Santosh Kumar, who performed a live surgery before a battery of media persons at the Belle Vue today said, “The minimal invasive technique is less time taking and the patient can stand on his feet on the same day of the surgery and can walk or climb stairs on the second day.”



total knee arthroplasty has been done for the first time in the eastern part of the country. Unlike conventional surgeries where the patient takes a longer time to heal, the latest procedure not only saves time, but also leads to a very minimal blood loss, said Dr Kumar, the head of computer-assisted (navigated) joint replacement centre at Belle Vue. He further said, the transplant costs a little more than Rs 1 lakh and can last for several years. “The treatment is of immense help to those who are at the peak of their professional lives and look for early recovery. They can resume normal life within a few days of surgery.”

THE ASIAN AGE

29th January, 2013

KNEE JOINT REPLACEMENT MACHINE UNVEILED

AGE CORRESPONDENT KOLKATA, JAN. 28

The world's most modern and advanced knee joint replacement navigation machine, OrthoPilot, an innovation to make knee and hip surgeries accurate and mathematical was unveiled on Monday at Belle Vue Clinic.

Made in Germany, the

fourth generation machine is said to be the first of its kind in eastern India. Consultant orthopaedic surgeon and head of KIMS, Hyderabad, Dr Krishna Kiran said: “It's the precision which has enhanced with OrthoPilot. It is more accurate as machine allows error-free surgery.”

hindustantimes

29th January, 2013

NOW, COMPUTERS AID IN JOINT REPLACEMENT SURGERY IN CITY

HT Correspondent

letters@hindustantimes.com

KOLKATA: Belle Vue Clinic installed ‘orthopilot’ on Monday, the fourth generation navigation system that helps doctors eliminates human errors in hip and knee replacement and corrective surgeries.

“The machine's efficiency is much higher than the devices normally used for knee and hip replacement surgeries. Orthopilot is a hi-tech machine for enhancing precision during surgeries,” Dr Krishna Kiran, director, Institute of Computer Assisted Joint Replacement Centre, Hyderabad, said during the launch of the German-manufactured device.

“Prior to computer-assisted devices, we couldn't be certain that an implant would be placed in the optimal position. It allows easy minimally invasive surgery, decreasing recovery time and post-operative pain,” he said.

The increased accuracy also help increase the life of the implants, while causing less blood loss in the patient. In fact, most patients are able to walk one day after the surgery.

Stating that Orthopilot is a powerful surgical tool that combines dedicated software with superior instrument design, knee

surgeon, said Dr Santosh Kumar, head of the institute of Computer-assisted (navigated) joint replacement centre at the clinic.

“It guides a surgeon to make precise cuts in the joints and remove deformities, by using infrared camera. It gives patient specific information during surgery while virtually eliminating expensive and radiation intensive CT and MRI scans before the surgery,” Dr Kumar added.

THE TIMES OF INDIA

29th January, 2013

Orthopilot for accurate joint surgery

Kolkata: Have someone in your family who needs to undergo a hip or knee joint replacement surgery? Yes, these surgeries are common in the city now but precision levels depend on the surgeon's eyes. Hence, many patients complain of problems post surgery as the replaced knee is misaligned. So, those asked to go under the scalpel may harbour apprehension after hearing tales of misalignment.

But help is at hand in the form of a computer-guided orthopilot. The fourth generation hip and knee joint replacement navigation machine was inaugurated at the Belle Vue Clinic on Monday. Housed in the hospital's Institute of Computer Assisted (navigation) Joint Replacement Centre, the orthopilot is the first in eastern India.

The institute's head, Dr Santosh Kumar, said: “Orthopilot eliminates uncertainty and enhances precision. It also enhances long term results as deviation from goals during surgery is eliminated and the implants survive 1.5 to two times longer.” According to him, a replaced knee under conventional surgery lasts 8-10 years, while one implanted with an orthopilot stays intact for 15-20 years. The costs under both techniques remain around the same — Rs 1.80 lakh. The same surgery costs Rs 15 lakh in Indian currency in the UK, he said.

News About Dr.Santosh Kumar, About Ortho Pilot & Advanced Procedures Done By Him



Patients' Experiences [All Ortho Procedures]



**Maya Ghosh, 66 years
Kolkata**

"I had been suffering from knee pain for last one year. It was difficult to walk. I heard of Dr. Santosh Kumar from my friend and got my knee operated. I now can walk. My friend too is well now. Thanks to Dr. Kumar".



Mr Das, Ulta Danga, Kolkata

Operated for Rheumatoid Arthritis of knee. Total knee replacement done in may 2012. Retired but socially very active, was crippled and home bound, till he started moving out after knee replacement. He says, " it feels as if my age has reduced by 20 years".



Prem Lakhani, 75 years, Kolkata

"I had long knee problem . I consulted Dr. Santosh Kumar. I was operated on 7 Jan, 14, detained in hospital for 4 days and started walking within 4 days. No pain and I am walking almost normally. I am back to normal work. Thanks to Dr"



Parbati Roy, 67 years, Kolkata

"I am 67 year. I have been suffering since 2005 and was under medication. In Oct 2013, I was almost crippled. At this stage, one of my cousins suggested for Dr. Santosh Kumar. He operated my right knee and my left knee was operated in next July. Am fine now"



Sister Jaya, Belle Vue Clinic

"Working as in-charge nurse had become so painful till I saw some operated cases by Dr Kumar and their results at our hospital. I decided to go for Knee Arthroplasty(replacement). Am happy that within a month I joined back my work with confidence."



Mr Banerjee, Beliaghata, Kolkata

An retired footballer says, "knee pain and stiffness had crippled my life in sharp distinction to the joy of playing football in my early age, actually I had suffered from ACL injury which accelerated osteoarthritis. I am happy that the joy of movement has been restored".



Arun Kumar Jana, 71 years

"I have been suffering from knee pain since 2005. I got Dr. Santosh Kumar's contact through internet. He advised for knee replacement. Although I was scared by many, yet Dr. Kumar explained all in details and operated. He and his team had been cooperative".



Prof. Malabika Deb

After the knee replacement, I can climb up the stairs and walk. Feeling much better...



A Patient rides a bicycle with ease after undergoing Knee Replacement by Dr. Santosh Kumar using Orthopilot, an advanced computer navigation procedure.

More Patients Experiences & Testimonials can be provided on request



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Consult the Doctor via Online or Video Conference

Dr. Santosh Kumar is available for video conference with the patients for better understanding between the patient and the doctor. What you need to do is to fill in the form in the website [format given below] and submit. You will be intimated duly over phone/through mail the date and time for video conference.



You need to have Skype (free software for video conferencing) downloaded in your computer. Now add Dr. Kumar in the contact with his ID, E-mail and Phone No that will be communicated to you. You should have a web camera attached to your computer. You can interact with the doctor at the pre appointed date and time.

* Name :	<input type="text"/>
* Address :	<input type="text"/>
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* Pincode :	<input type="text"/>
* Phone :	<input type="text"/>
* E-mail :	<input type="text"/>
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For Outstation Patients

If you reside outside of Kolkata, you can contact us in either of these ways :



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Please check our website for details



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Before surgery / procedure, do meet the Dr in person once.



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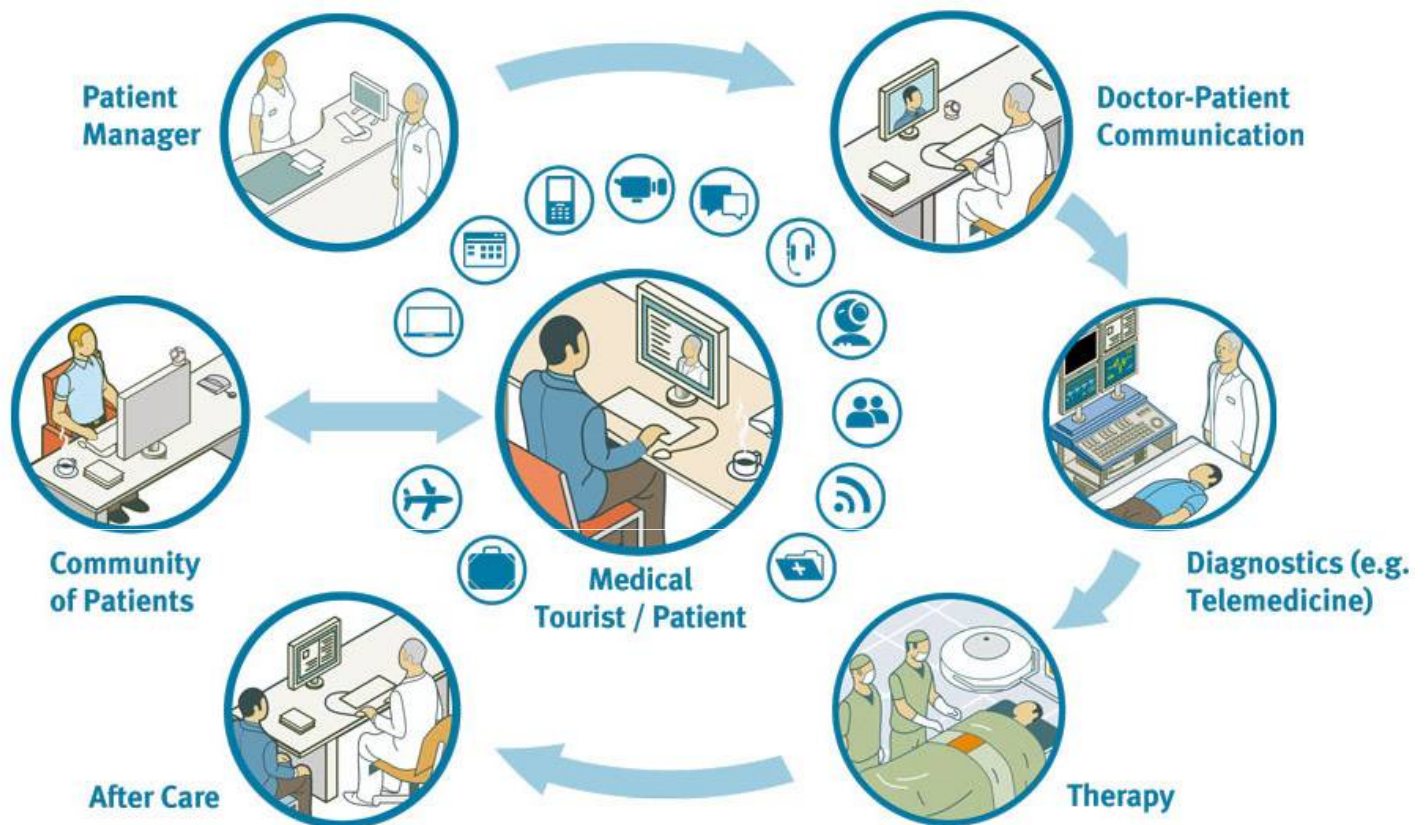


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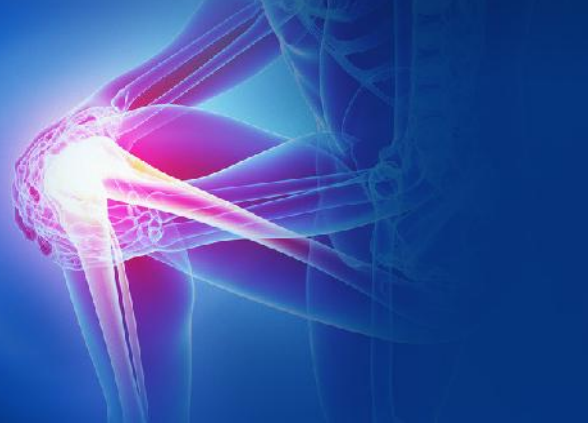
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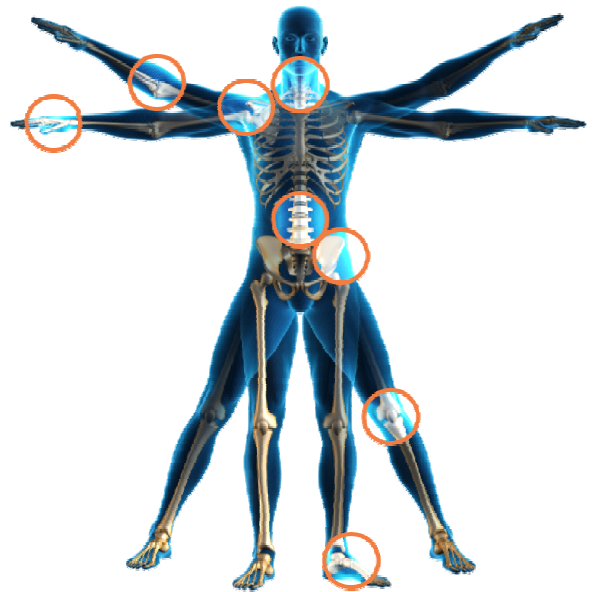
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About the Foundation

Poorva International Orthopaedic Foundation was created as a health charity dedicated solely to help people build, maintain and restore their bone and joint health. We do this by raising and allocating funds for the research, education, treatment and care that help patients to live and move independently - longer and stronger.

We invite you to help us in whatever capacity you can to fight against orthopaedic diseases & disorders. Your participation helps the tens of thousands of people living with pain, isolation, unhappiness and an inability to enjoy life due to bone and joint disorders such as arthritis, osteoporosis and injury.



Founded in 2014, Poorva Orthopaedic Foundation is a national registered charity powered by professional staff and network of volunteers. The Foundation is Kolkata's only health charity dedicated solely to helping people maintain and restore their bone and joint, or orthopaedic health.

What we do

Poorva Orthopaedic Foundation raises money through the trustees' donations and invests those funds in programs to advance orthopaedic research, promote patient and public education, and improve community care.

The Foundation is committed to patient education and to providing patients and their families with accurate, up-to-date information that will make going through orthopaedic surgery a little easier and less frightening.

Our Vision:

To be Patients' voice for bone and joint health.

Our Mission:

To achieve excellence in bone and joint health, mobility and function for all patients through the advancement of research, education, and care.

Our Values:

People: We work in the interest of orthopaedic patients, their families, and the professionals who treat them and for the future of any Individual who may require orthopaedic care.

Making a Healthy Difference: We contribute to the health of our communities and our nation by working with volunteers, patients, professionals, government and industry toward timely and quality access to bone and joint care.

Good Governance: We are committed to excellence in the governance of our organization and will do so ethically, morally, according to the law, and towards the achievement of our Mission.

Help to keep people on the move!





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