CO23-001–EN  
**Physiopathology of spinal osteoporosis**  
D. Chappard  
*Inserm 922, UFR Sciences médicales, Angers, France*  

No abstract provided.  

CO23-002–EN  
**Drug treatment of osteoporosis**  
Y. Maugars  
*Service de rhumatologie, CHU Nantes, 1, place Alexis-Ricordeau, 44093 Nantes, France*  

Osteoporosis is responsible for more fractures in our aging population who fall. However, advances in treatment allow for the first time a relative decrease in the number of osteoporotic fractures in France. We propose a review of different treatment options, based on the pathophysiology of bone, which may act by stimulating or inhibiting bone formation and resorption.  

Inhibition of bone resorption was the prerogative of bisphosphonates. The new molecules have acquired several important features: low anti-osteoblastic to the usual doses and powerful anti-resorptive effects, weekly or even monthly sequential administration, very long bone half-lives (short serum half-lives), parenteral administration. Their effectiveness in prevention of osteoporotic fractures is mainly vertebral (50–70%) than peripheral (15–25%). Their tolerance is excellent, despite new side effects highly contested (mandibular osteonecrosis, arrhythmias, atypical fractures), and with a potential increase in life expectancy, especially after femoral neck fracture for Zoledronate.  

Raloxifene is a less effective anti-resorptive drug, with a proven effect only on vertebral fractures. It is a preventive treatment of choice in young women at risk of postmenopausal breast cancer, without very low femoral bone density or risk of thrombophlebitis.  

Teriparatide is the 1–34 fragment of PTH, stimulating bone remodeling in favor to anabolism in sequential administration. Its anti-fracture efficacy is both spinal and peripheral, following a sequence of 1.5 years subcutaneously daily injections. Its tolerance is good. It is costly and reserved for severe osteoporosis (at least 2 vertebral fractures).  

Strontium ranelate is unclassifiable, a moderate anti-resorptive but also an anabolic effect on bone mineral. Allergic patients should be monitored closely. Finally, the future is already biotherapeutics, such as Denosumab this year, very powerful inhibiting bone resorption by cutting communication RANK-RANK-L between osteoblasts and osteoclasts, well ahead of future anabolic bone treatment for the Wnt pathway or specific inhibitors of collagenases of osteoclasts. The armamentarium grows, and the announced decrease osteoporotic fractures already obtained, with promises of even more dramatic results in the future.  

CO23-003–EN  
**Kyphoplasty and cimentoplasty. The radiologist's point of view**  
A. Feydy  
*Hôpital Cochin, Paris, France*  

No abstract provided.  

CO23-004–EN  
**Kyphoplasty in the treatment of osteoporotic settlement: Indications, benefits and risks**  
K. Buffenoir-Billet*, O. Hamel, E. Bord, R. Robert  
*Service de neurotraumatologie, CHU Hôtel-Dieu, 1, place Alexis-Ricordeau, 44000 Nantes, France*  

*Corresponding author.

Balloon kyphoplasty is a technique developed by Reiley and Calif, in 1998, which involves injecting high viscosity cement after surgical reduction of vertebral fracture. It is preferable to vertebroplasty when settlement is greater than 30% of vertebral body height. Injection of high viscosity cement limits leakage. The kyphoplasty is a rapid technique (<30 minutes per fracture level), which allows fast loading of the patient and is associated with a low complication rate. It allows rapid relief of pain (VAS divided by three in the first days after surgery), and stable over time. 73% of patients regain ambulatory status in the first week after surgery and more than 81% at two years. The study of the SF-36 pre-and postoperatively showed a significant improvement from the first days after surgery and remained stable at 18 months of surgery. Finally, in cases of osteoporotic fractures tougher, this technique can be coupled with short osteosynthesis, which seems to decrease very significantly the rate of complications and especially the number of dismantling the equipment. One problem with this technique seems to be settling secondary adjacent vertebrates, which can lead to an escalation therapy may be deleterious to the patient.  