determined dose of glucosamine is 500 mg administered orally three times a day results in a significant reduction in joint pain and an improvement in joint function. In addition, glucosamine appears to reduce the loss of cartilage in the knee joint over at least a three-year period, particularly in those with milder radiological osteoarthritis (Bruyere and Reginster, 2007; Noertjojo et al., 2004).

Glucosamine has shown to be anabolic and anti-catabolic agent as well in in-vitro experiments (NCOR report, 2012).

Further, exogenous glucosamine has shown to increase the incorporation of SO4 and H-Proline into the cartilage and has shown significant reduction in the inhibition of proteoglycan synthesis by NSAIDs taken to relief pain and swelling (MHRA, 2009).

A randomised controlled, double-blind trials were carried out in Belgium and the Czech republic to compare between the effect of 1.5 gm of glucosamine sulphate given daily for 3 years in osteoarthritic patients with a placebo (McColl, 2004). Both trials assessed the efficacy of glucosamine over a period longer than almost all previous randomised studies of osteoarthritic patients, particularly studies of NSAIDs which have been notoriously short. The structure-modification was the primary end-point of the trials rather than symptom-modification, which was a secondary end-point.

The two trials suggest that glucosamine sulphate (1.5 g orally daily) has a substantial symptom-and structure-modifying effect in patients with mild to moderate osteoarthritis of the knee and a relatively normal BMI. However it is currently unknown whether glucosamine would be as effective or as safe in patients with higher BMIs. It is uncertain whether or not the long-term structure-modifying effects of glucosamine would result in 'real' outcomes such as reduction of functional deterioration or delaying the necessity for total knee replacement surgery. Nonetheless, it is recommended to administer