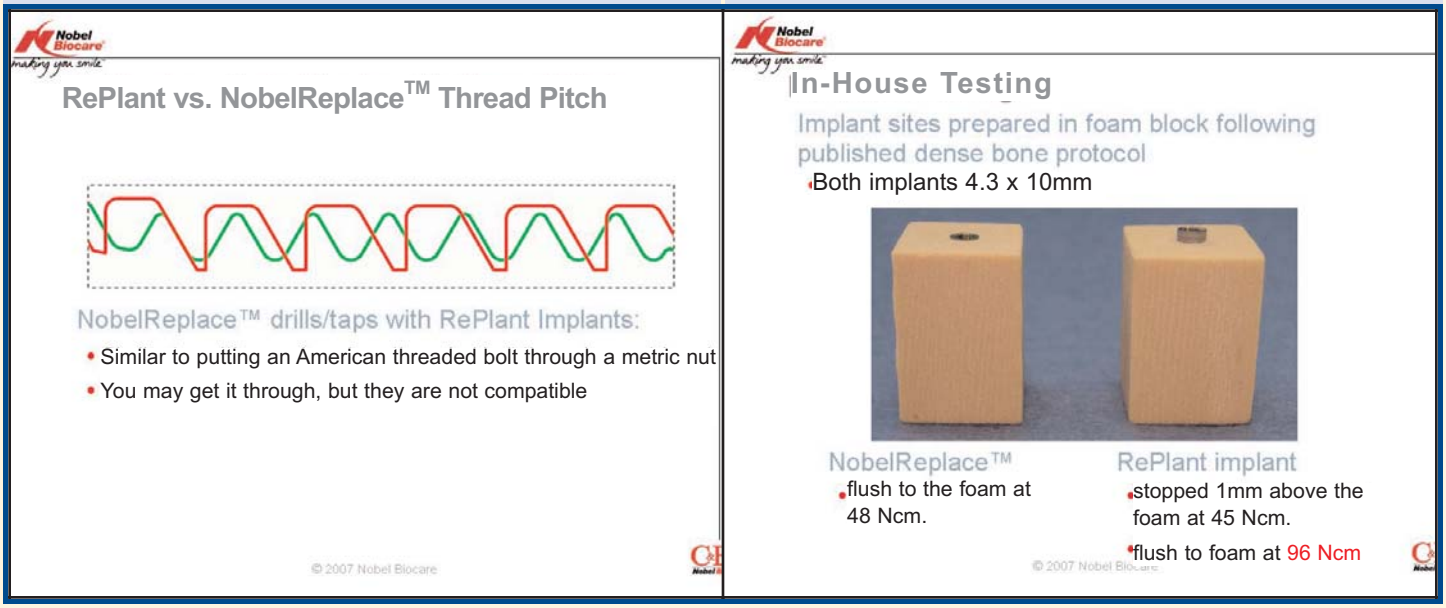
Nobel Biocare Slide #8: Superimposes the "V" threads of the RePlant over the flat-topped threads of the Replace implant, The RePlant has self-tapping grooves like a bone tap

Nobel Biocare Slide #11: Insertion torque in plastic. RePlant cut new threads, requiring 2X more torque for increased stability. **RePlant Compatible as it fully seated.**



In response to Nobel's circulation to its sales force for use in marketing against Implant Direct, Implant Direct conducted its own comparative insertion torque tests using 10mmL X 4.3mmD NobelReplace Tapered Groovy Implant and Implant Direct's RePlant Implant. By contrast to the picture shown in slide 11 above representing Nobel's "In House Testing" using a "foam block" (dense plastic), Implant Direct used Oak wood as its dense bone replica material because it cuts and threads similar to type 1 or 2 bone. On the opposite page are pictures taken by Dr. Niznick during the tests conducted by two Implant Direct testing and manufacturing engineers, showing the torque readings in inch-pounds which converts to Ncm by multiplying by 11.3. Holes were prepared using the appropriate length and diameter drills and bone tap following Nobel's recommended dense bone surgical protocol for its 10mm long implants (Nobel sells dense bone drills for the 13mm and 16mm long implants but recommends use of the appropriate diameter bone tap for the shorter implants. Implant Direct also recorded the torque required to thread the hole using the Nobel bone tap, which was not reported by Nobel for their test. This is important because of Nobel's claim that higher torque required to insert the RePlant could result in compression necrosis of the bone in a clinical case. This is easily disproved by the fact that the torque needed to thread the Oak was only 40% of the torque needed to cut the threads prior to inserting the RePlant.

The results demonstrate that while the RePlant implant required more insertion torque to seat the implant, the difference was far less than that reported by Nobel, and of no clinical significance. Some difference is to be expected since the threads on the Replace implant just follow the threads created by its bone tap, whereas the self-tapping RePlant Implant cuts new threads in the oak, increasing initial stability. Nobel reported a 100% increase in torque required to fully seat the RePlant compared to the Replace implant (96 vs. 48 Ncm) in contrast to a 45% difference in Implant Direct's test results (34.46 vs 23.55Ncm) placing the RePlant absolutely flush with the top of the wood sample and only 11% difference (26.55 vs 23.73 Ncm) when the RePlant was an insignificant 1/4mm above the wood. To put the RePlant insertion torque numbers in perspective, the higher torque to seat the implant the last 1/4mm is 40% (34.46/82.48Ncm) less than the amount of torque required to tap the threads in Oak. Nobel's claim that the RePlant could potentially cause "pressure at collar area" is therefore without merit because much more pressure was applied by the bone tap. The RePlant creates greater initial stability in dense bone following bone tapping than the Replace implant, as measured by insertion torque. An accepted benchmark for adequate initial stability to immediately load an implant, is 35Ncm of insertion torque, exactly what it took to fully seat the RePlant, a value that is only 17% of the torque required to fracture the implant (34.46 vs 191.7 Ncm). Inserting the NobelReplace Implant into a pre-tapped hole in dense bone for those implant lengths and diameters where dense bone drills are not available, is recommended to reduce the risk of implant fracture. This dense bone protocol may also reduces initial insertion torque values below the recommended 35Ncm, the accepted criteria for immediate loading. The increased strength of the titanium alloy RePlant, allows self-tapping insertion in most situations considered as dense bone. It will also achieve adequate initial stability when inserted into a socket prepared using the NobelReplace bone tap because the RePlant's self-tapping design creates its own threads in the bone, taking advantage of the socket enlargement from the use of the bone tap to reduce required insertion torque to an acceptable level. If the dentist uses the RePlant's aluminum fixture-mount to insert the implant instead of Nobel's Trilobe insertion tool, the softer aluminum will strip before the implant fractures. It acts as a torque gauge to let the dentist know whether the dense bone surgical protocol is needed, thus providing **optimum stability.**