

THE CONELOG® IMPLANT SYSTEM – FACTS AND FIGURES AT A GLANCE

Excellent results of the CONELOG® Implant System: precision of fit and maintenance of crestal bone level.⁽¹⁾

Aim

To provide insights into the scientific documentation of the CONELOG® Implant System based on facts and figures.

Introduction

Very few implant systems have been systematically and thoroughly documented in the literature. The CONELOG® Implant System belongs to these well documented systems because encouraging independent research is fundamental to the CAMLOG strategy (**Fig. 1**).

Precision of the conical connection

CONELOG® implants offer an implant-abutment connection with self-locking cone geometry. Several mechanical tests have demonstrated the precision of the connection.^(2, 3, 4)

Microgaps and its consequence, i.e. micro-leakage or bacterial penetration in a conical connection are impossible to eliminate.^(5, 6) The lack of a micro-gap could result in cold welding of the connection and would make later replacement of the abutment almost impossible. Therefore, small tolerances are required to minimize but not eliminate this gap. The rotational freedom and ability to vertically reposition the abutment play a major role in the precision of the prosthetic restoration. An in-vitro study with hand-tightening of the abutment showed excellent results for the CONELOG® Implant System compared to 5 other systems with conical connections⁽⁷⁾ (Tab. 1).

Excellent results for the bone level changes with Platform Switching

There are several ongoing clinical studies which aim primarily to evaluate crestal bone preservation at the implant or to evaluate the outcomes of different implant lengths. Preliminary results have demonstrated good preservation of the crestal bone post loading (mean value +0.12 mm after one year⁽⁸⁾). These preliminary results confirm the outcomes of the ongoing multicenter study performed on CAMLOG® Implants with and without Platform Switching⁽⁹⁾, which demonstrated an excellent maintenance of the crestal bone level with a bone-level change at one-year post loading of +0.08 mm (with Platform Switching).

Conclusion

The solid documentation of the CAMLOG® and CONELOG® Implant Systems is based on independently collected data or on scientific evidence sponsored by the company. This is an important contribution to CAMLOG's success story. More than 11,000 implants with a Promote® surface present follow-up data of at least 5 years. The use of Platform Switching^(8, 10) and of the implant abutment connection are key factors contributing to the good integration of CONELOG® Implants.

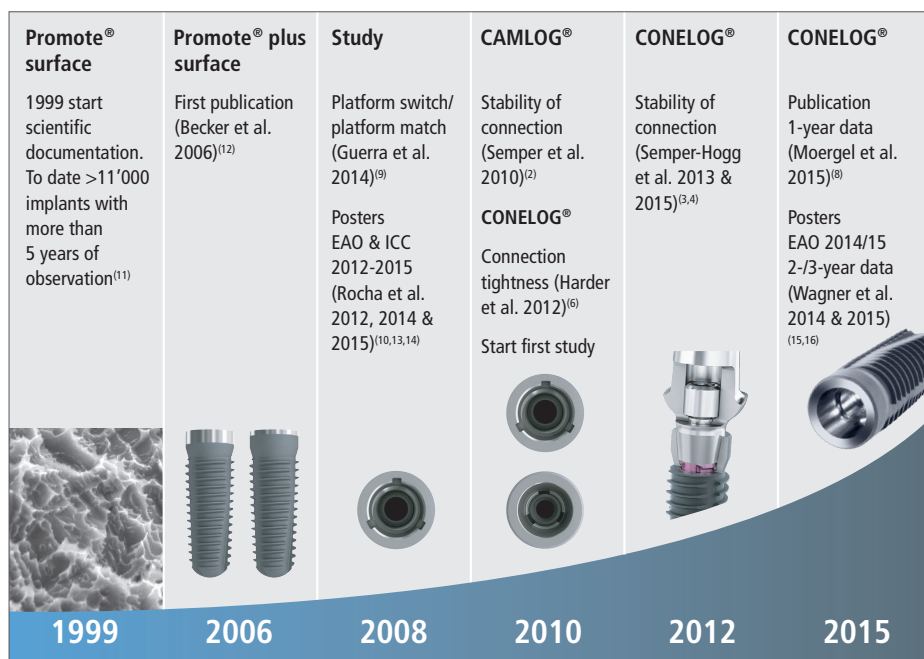


Fig 1: The development of the CONELOG® Implant System is based on a solid foundation of scientific research.

TAKE HOME MESSAGE:

1. CONELOG is a thoroughly documented implant system
2. Superior precision of the implant-abutment connection
3. Excellent maintenance of crestal bone level

Implant system	Rotational freedom (°)	Vertical height deviation (µm)
Nobel Active	> 5	> 50
Ankylos C/X	> 5	< 50
Astra Tech	> 4	> 50
CONELOG	< 3	< 50
Bone Level	> 3	> 50
Tissue Level	> 3	< 50
External hexagon impact connection (Steri-Oss, Nobel Biocare)	> 3	< 10

Tab 1: Rotational freedom (°) and vertical repositioning of 6 systems (adapted from Nelson et al. 2013)

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CONELOG® is not registered in all markets.

HEADQUARTERS

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HIGH PRECISION OF THE CONELOG IMPLANT-ABUTMENT CONNECTION

As for the CAMLOG® Implant System, **precision testings have confirmed the high precision of the CONELOG implant-abutment connection, this to the benefit of the patient, the dentist, and the dental technician.**^(1,2)

Semper Hogg et al. (2015) compared the CONELOG implant-abutment connection to other systems with conical connections, i.e. Nobel Active, Ankylos C/X, Astra Tech, Straumann Bone Level, and Straumann Tissue Level. The abutments were **torque tightened** according to each manufacturer’s recommendations.

CONELOG showed the best results in terms of rotational displacement (Fig. 1) and canting moment range (Fig. 2) and very good results in terms of vertical displacement range (Fig. 3).

Importance of the results:

The precision of the implant-abutment connection is of major importance for the fabrication of the prosthetic restorations and their accuracy from the model to the patient’s mouth. Stability of the implant-abutment connection is strongly influenced by the precision of fit, the connection design and the manufacturing precision.

The CONELOG implant-abutment connection showed evidences of high-precision manufacturing and superior positional stability when compared with other conical connections.

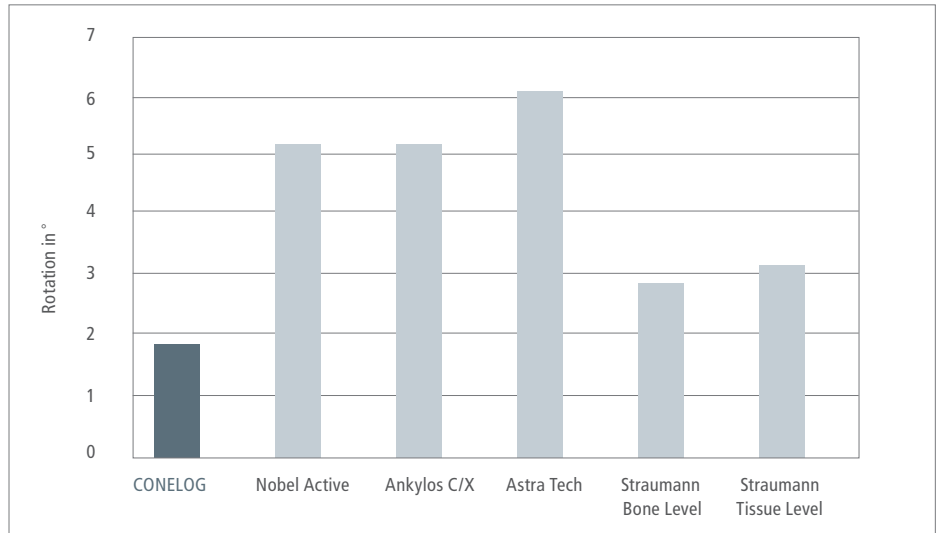


Fig. 1: Rotational displacement of 6 implant systems. (Graphic depicted from Semper Hogg et al. 2015)

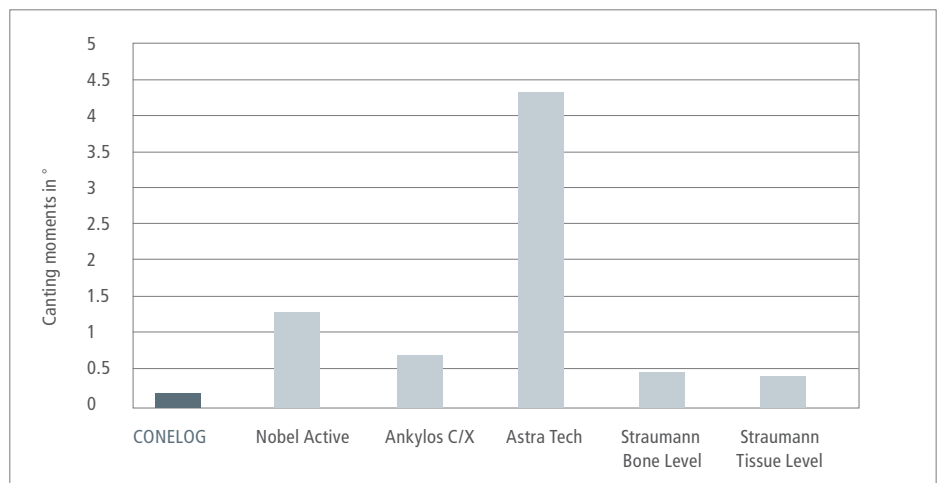


Fig. 2: Canting moments of 6 implant systems. (Graphic depicted from Semper Hogg et al. 2015)

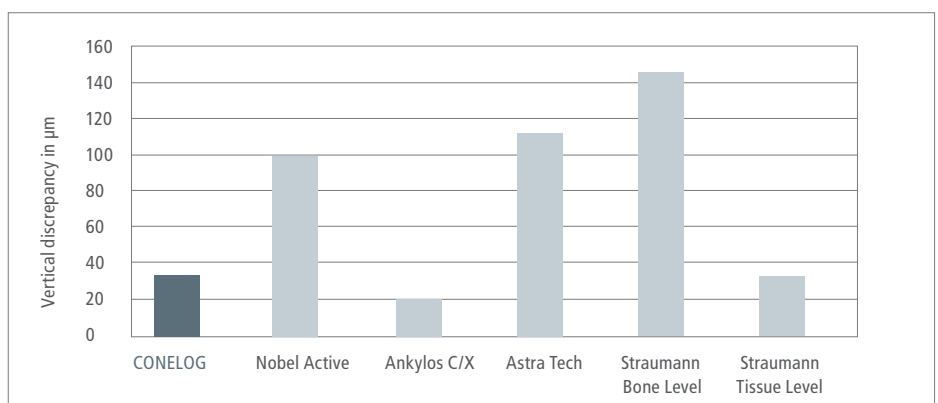


Fig. 3: Vertical displacement of 6 implant systems. (Graphic depicted from Semper Hogg et al. 2015)

TAKE HOME MESSAGE:

1. Superior precision of the implant-abutment connection for CAMLOG® and CONELOG® Implant Systems
2. Advantages of a good precision:
 - a. Better passive fit
 - b. Less abutment screw failure
 - c. Less adjustment necessary
 - d. Time saving
3. Beneficial for the patient, the dentist and the dental technician

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