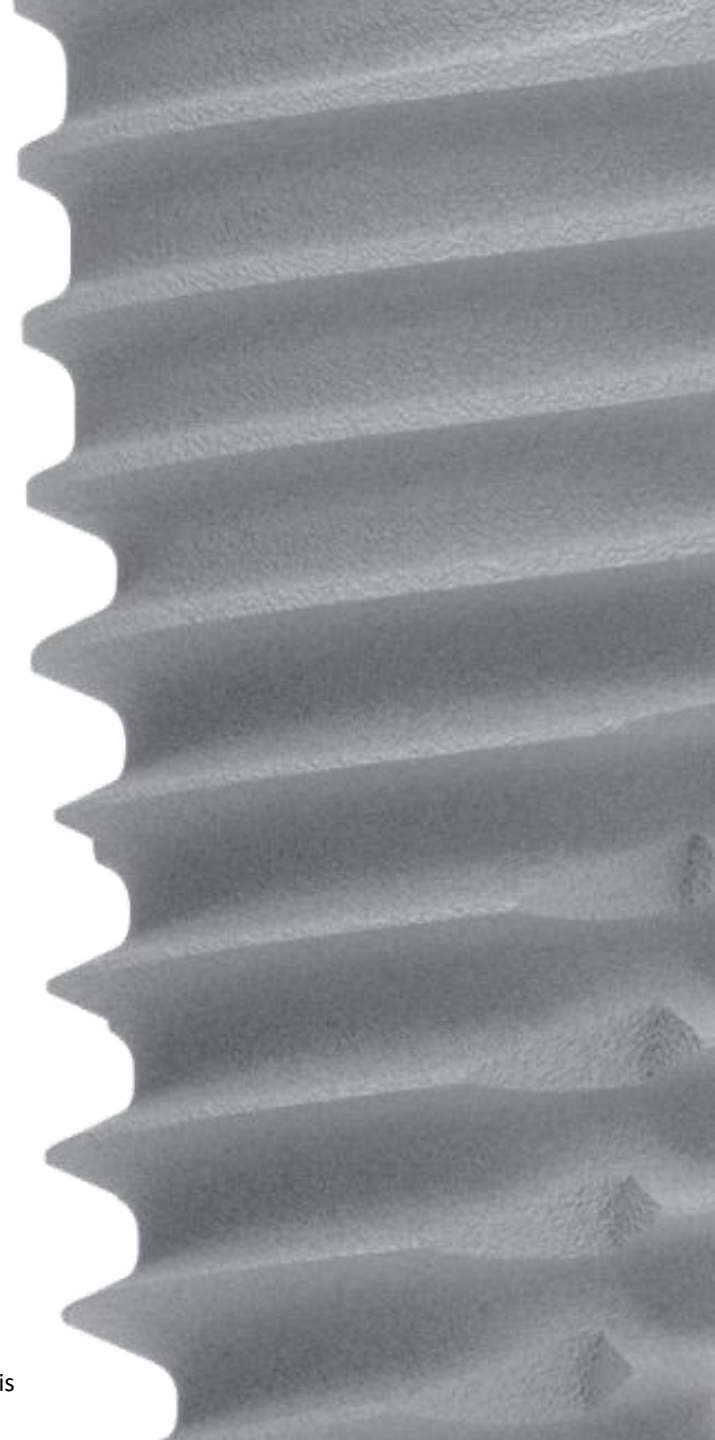
STERI-OSS IMPLANT
SLA Surface Technology

The advanced automation of STERI-OSS Dental Implant System provides unmatched precision, ensuring a consistently uniform and highly reliable implant surface.



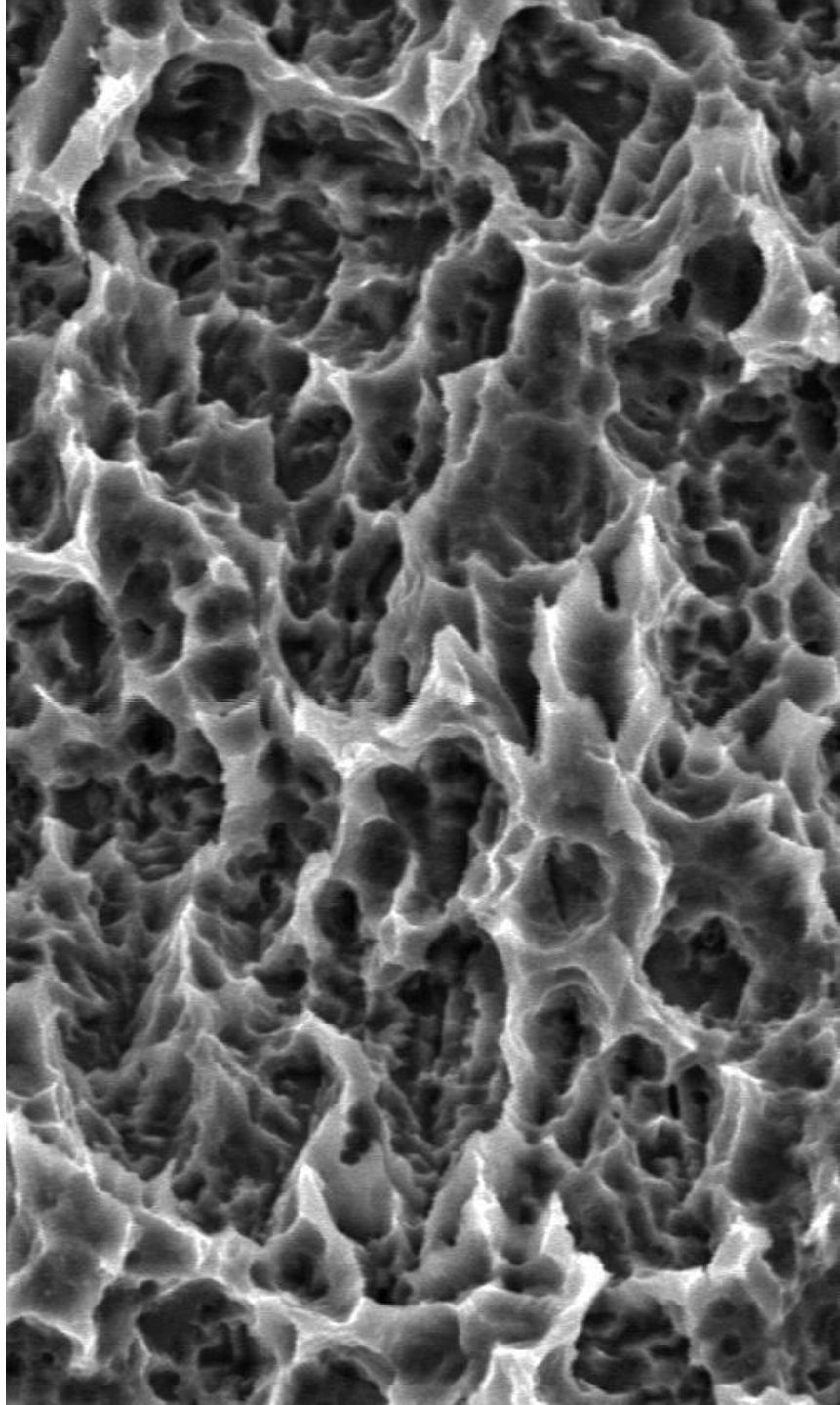
Manufactured by ZEROS Co., Ltd.

1. Surface Design Philosophy

The implant surface is where osseointegration begins, and its quality directly determines primary stability and long-term clinical success.

STERI-OSS Implant prioritizes surface uniformity, reproducibility, and clinical predictability as its core values.

Through a fully automated and standardized surface treatment process, every implant is manufactured with an identical, high-quality surface designed to maximize early osseointegration.



2. Fully Automated Surface Processing

The SLA surface of the STERI-OSS Implant is manufactured through a fully automated surface treatment process incorporating a German KUKA automation system.

Integrated with robot-controlled, high-precision automated processing, this system ensures a consistently uniform SLA surface across the entire fixture from the thread crest to the thead valley.

By delivering repeatable precision through automation, STERI-OSS Implant achieves exceptional surface consistency and reliability in every implant.

Eliminates Variability

Removes operator skill, fatigue, and environmental fluctuations from the process.

Minimizes Variation

Lot-to-lot quality variation is fundamentally reduced.

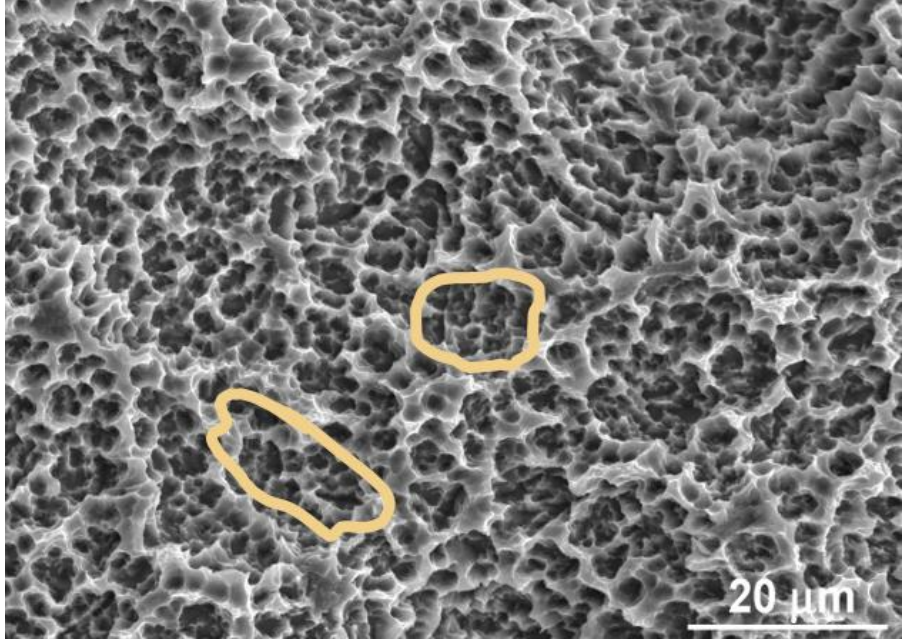
Ensures Consistency

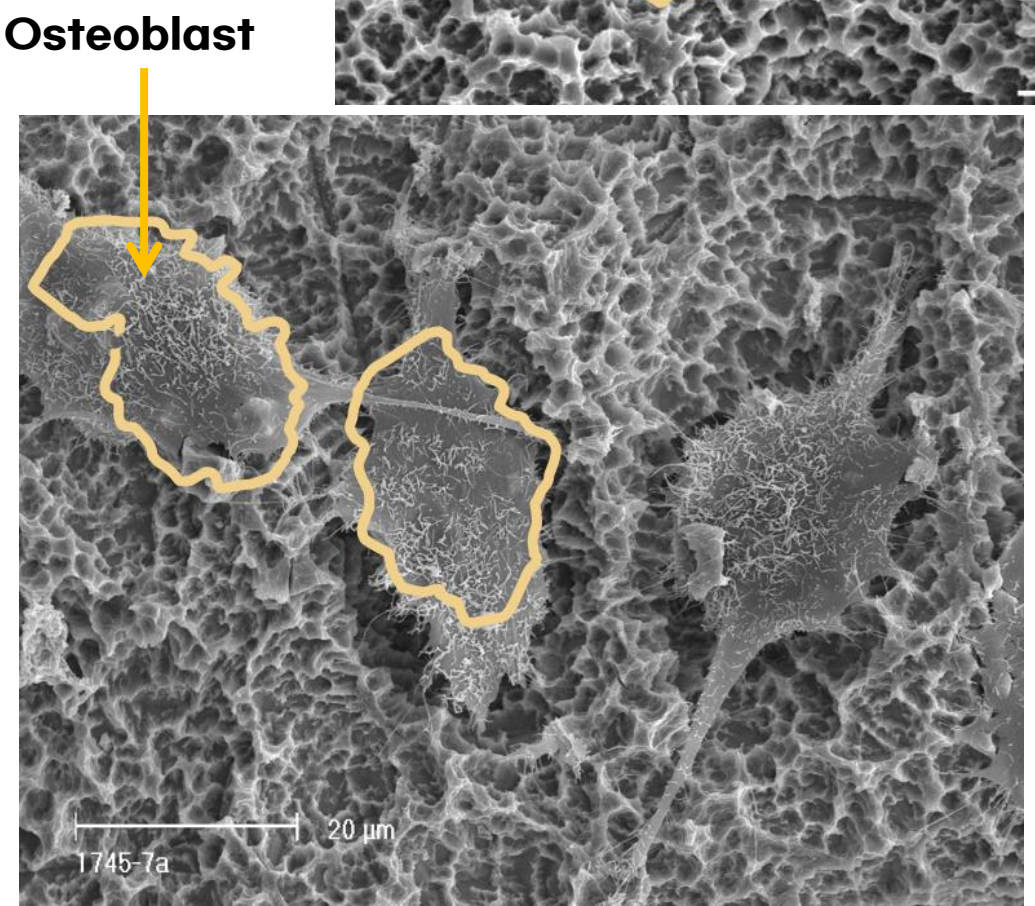
Reliable reproduction of uniform SLA surface with every implant.

3. Optimized SLA Roughness & Surface Structure

The STERI-OSS Implant SLA surface forms a Ti-oxide-based porous architechture with optimized micro-and-macro pores, specifically designed to promote osteoblast attachment and proliferation.

A continuously uniform porous structure extending from the thread crest to the thread valley across the coronal, middle, and apical regions of the fixture maximizes the bone-to-implant contact area (BIC).





Key Benefits

- Enhanced early blood clot formation
- Improved initial cell or cellular tissue adhesion
- Rapid osseointegration process
- Reliable early stability for confident implant placement

4. Fully Enclosed Automated SLA Surface Treatment Chamber

Contamination Control

External contaminants completely eliminated through sealed chamber design.

Environmental Stability

Strictly controlled processing environment removes all variables.

Quality Assurance

Minimize defects and process-related risks ensure safe, consistant result.

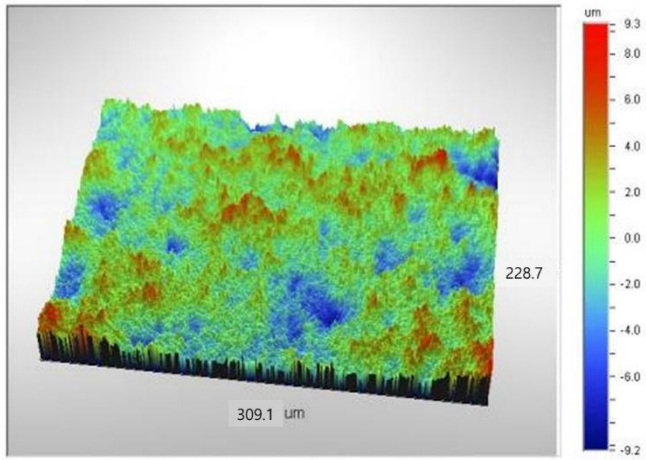
5. SEM-Based Surface Evidence

High Magnification Analysis

SEM analysis at 3,000x to 5,000x shows continuous and highly uniform porous structure with minimal impurities or defects.

Competitive Comparison

Comparative evaluation against Straumann BLX demonstrates superior uniformity and cleanliness.



2.2µm

Surface Roughness (RA)

Optimal roughness for osseointegration

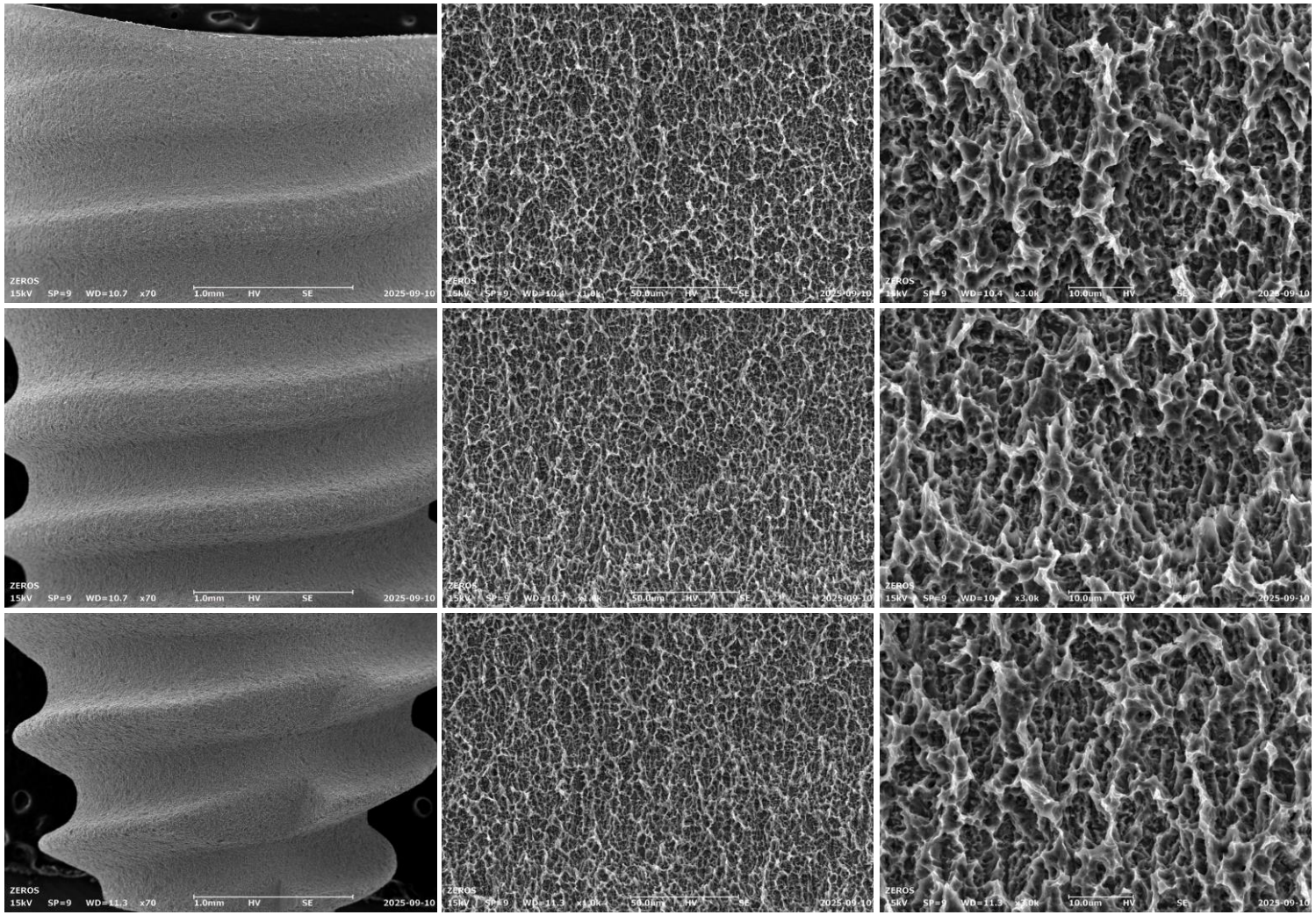
5. SEM-Based Surface Evidence

STERI-OSS IMPLANT

Coronal Thread Region

Mid-body Thread Region

Apical Thread Region



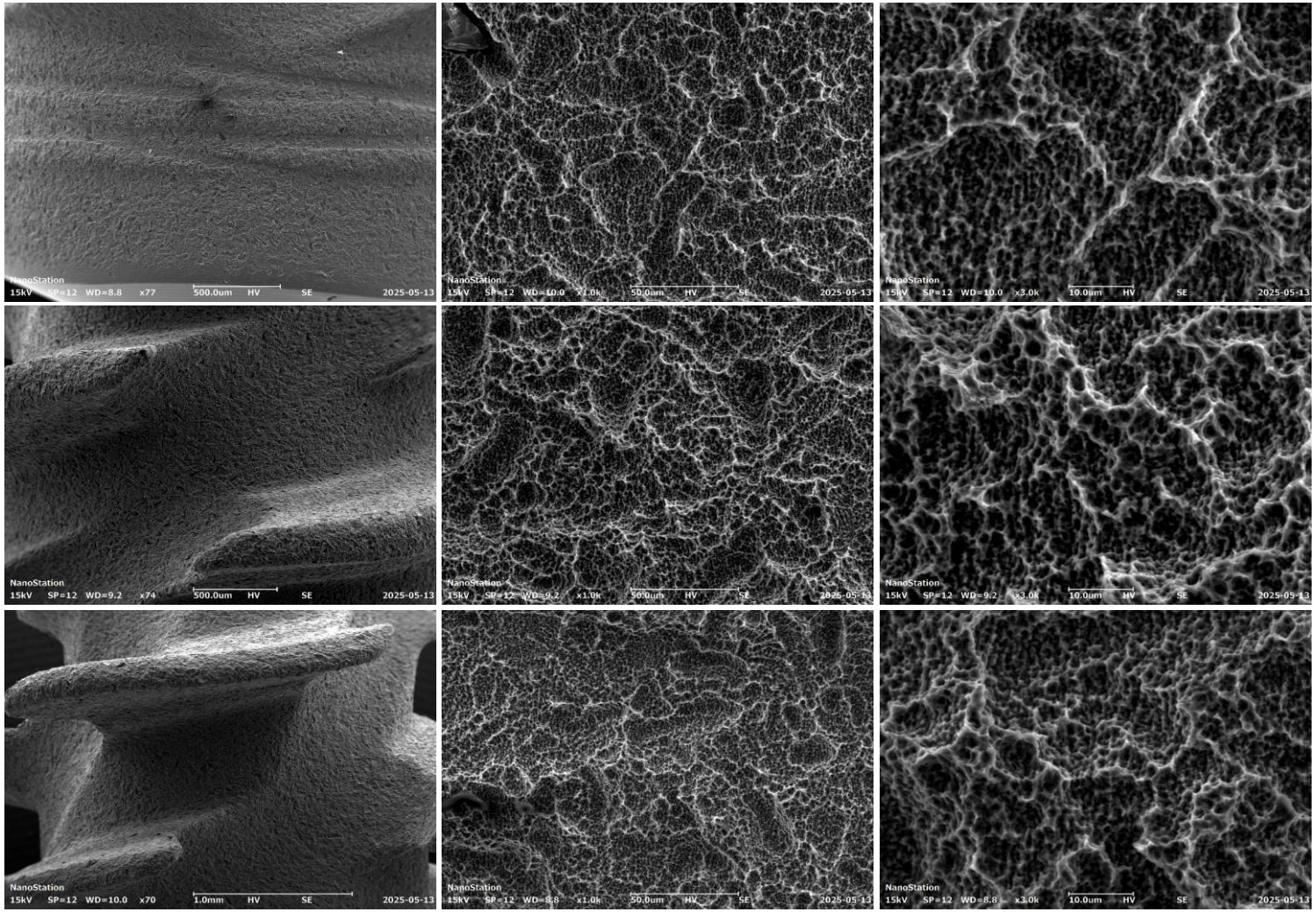
5. SEM-Based Surface Evidence

STRAUMANN BLX IMPLANT

Coronal Thread Region

Mid-body Thread Region

Apical Thread Region



6. Mechanical Stability of the SLA Surface

The STERI-OSS Implant SLA surface maintains its structural integrity without collapse or damage, even under high insertion torque conditions ranging from 45 to 80 N•cm.

This durability is achieved not through locally over-etched, sharp surface features, but through a uniformly distributed roughness across the entire implant surface.

> The STERI-OSS Implant SLA surface provides high reliability in demanding clinical environments where immediate placement and strong primary stability are critical.

7. Clinical Performance

Clinical cases conducted by Dr. Lee, Daehee has demonstrated the rapid osseointegration performance of STERI-OSS Implant achieved through its fourth-generation SLA surface technology.

70-90

ISQ Values

High primary stability at 2 months post-implantation

10%

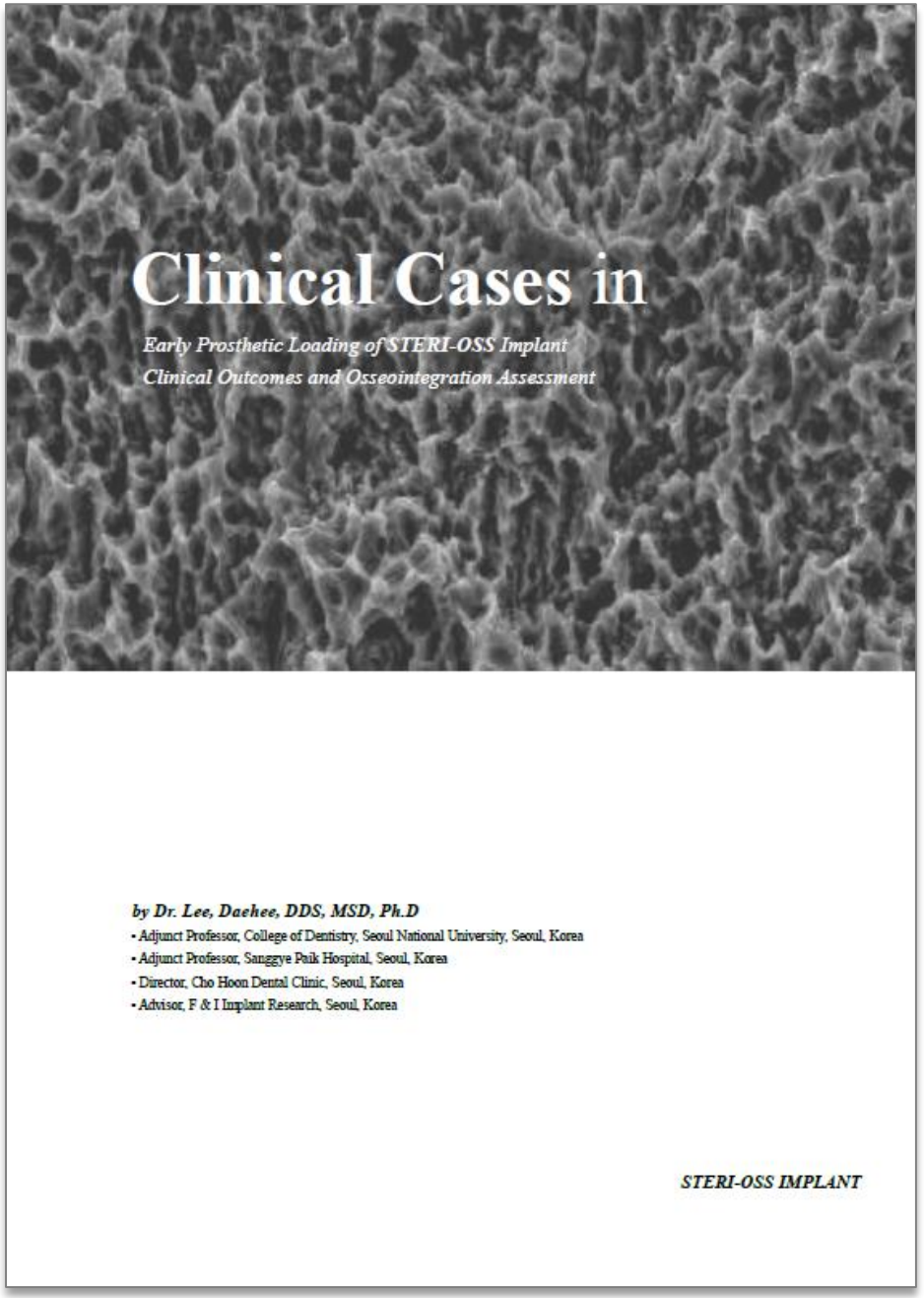
Higher Performance

Compared to major implant brands in Korea

2

Months to Restoration

Clinical protocal allows final prosthetic restoration



8. Clinical Significance

The clinical value provided by STERI-OSS Implant SLA surface technology:

Enhanced Early Success

Rapid initial osseointegration improves early success rates

Predictable Outcomes

Consistently uniform surface quality enables predictable clinical results

Treatment Efficiency

Shortened prosthetic timeline improves overall treatment efficiency

Surface Integrity

Surface maintains stability even under high insertion torque conditions

9. STERI-OSS Implant Advantages

Precision Through Automation

STERI-OSS Implant has established an advanced, fully automated surface treatment technology that consistently enhances early osseointegration and ensures reliable clinical outcomes.

This clinical evidence confirms the superior early osseointegration capability and clinical reliability unique to STERI-OSS Implant.

Thank you.