Tissue Stretching Concept /TSC
& BIONIC DENTAL PROSTHETICS

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"...Our values are our experience, hypotheses, scientific experiment, a posteriori analysis, narrative with the interpretation of the accumulated data and the successful implementation of the treatment plan..."

About the author.
Alexey Frolov, DMD, MSc, PhD.

Chief medical officer of the research and clinical center «SpasiboClinic» Moscow, Russia

Focus of research:
Studies of cell regeneration, influence of various stimuli on the mechanoceptive properties of cells (microtrauma, pressure, hypoxia). Histology, microbiology.
Author of 5 patents.
Developer of methods, materials, and tools in TSC (Tissue Stretching Concept).
Active speaker and educator.

Clinical practice:
Conservative and surgical periodontology, implantology, functionally and aesthetically oriented prosthetics.

CV
1991 - 1996 Smolensk State Medical Academy, Faculty of Dentistry.
1996 - 1997 Internship, General dentistry.
1997 - 1999 Residency, specialization in prosthodontic dentistry.
2012 - 2014 Residency, specialization in maxillofacial surgery.
2014 - 2016 Postgraduate course, specialization in surgical dentistry and implantology.
2023 Degree of Candidate of Medical Sciences (PhD).
1999 Private practice.
2017 Chief medical officer of the research and clinical center «SpasiboClinic".

Sergei Starshii, DT

Head of the private dental laboratory "Astra Denta" Yekaterinburg, Russia

CV
1992-1996 Sverdlovsk state medical college, dental technician
1999 Vice-champion of the competition of the Russian Dental Association StAR among dental technicians
2003 private practice
2005 Holder of the highest qualification category
The opinion leader of Ivoclar Vivadent, Sagemax.
Specialist in the field of work of increased complexity on implants and own teeth, a specialist in the field of reprosthetics.
Author of several articles in the journals "Prolab IQ", "Dental Dialogue" and in the "National Guide to Orthopaedic Dentistry"

Abstract:

Nowadays, teeth are known to represent not only function and aesthetics but also sensory organs being an instrument of socialization and a prerequisite of psychological health and cognitive hygiene.
Preserving hopeless teeth, we provide patients with functional aesthetics and self-confidence, as well as change their quality of reality perception.

In the lecture, we will present the possibilities of a new periodontal doctrine and answer the questions:
Is full destruction of the crown part of the tooth, periodontal pocket, resorption or cracks of more than 5 mm a verdict or an indication for removal?
Can dental treatment be ultraconservative, as a result, less risky and more comfortable?
What is the basis for the choice of tactics while preserving hopeless teeth?
What does the term «Different Periodontology" mean and how much potential does it have?
The Tissue Master Concept (TMC) and the Tissue Stretching Concept (TSC) make it possible to influence regeneration, change the quality and volume of soft tissues.
Using clinical examples with long-term results, we will justify the practicability, safety and stability of the use of TMC&TSC methods.

The goals and objectives of the training course are as follows:

Upon completion of the training, participants will be able to:
- Expand the indications for dental preservation
- Improve the condition of soft tissue through the use of bionic restorations
- Reduce the number of surgical interventions
- Minimize the biological burden on the body

Participants will gain an understanding of:
- Techniques for preparation teeth
- Taking impressions
- Fabricating temporary and permanent restorations
- Controlling the movement of fluids and cement during fixation

Tissue Stretching Concept /TSC

Part 1.

Theoretical background. Literature review.
New periodontal doctrine of TSC /TISSUE STRETCHING CONCEPT/.
Material Science, Methodology, and Engineering
MECHANOBIOLOGY
Biology and Hydrodynamics in the TSC
Biology and Bionics in the TSC
Probing and Palpation
Synergy of TMC & TSC
Histology and Morphology in TSC

Part 2.

Classification of subgingival defects: cracked teeth, dental root resorption, caries and its complications.

Clinical examples: diagnosis. tactics, realization, long-term results.
Periimplantitis: tactics, realization, long-term results.
Patient routing. Intra-disciplinary interaction.
Conclusions.
Discussion.

Part 3.

Preparation of vital and non-vital teeth. Fundamental differences and similarities. The degree of immersion and angulation depends on the condition of the periodontal ligament apparatus, the presence of pathological pockets, and the extent of tissue destruction.
Protection of vital teeth during preparation, fabrication of temporary restorations, taking impressions, and cementation of final restorations. Monitoring hydration, precipitates, and films.
Dynamic adjustment of the margin of the temporary restoration as supporting tissues mature.
Impression taking when the restoration margin is deep.

Part 4.

Basic technical specifications of bionic crowns and materials, design of the crown portion, subgingival design.
Transmission of information from the clinic to the laboratory, including photo protocol, recording of optical properties, digital impression, and analog impression.
Preparation of analog and digital models, including artificial gum, determination of restoration boundaries, and cement space.
Modelling of zirconia restorations using the EXOCAD software in full anatomical and ceramic application. Principles of forming a restoration eruption profile based on the depth of subgingival immersion.
Customization of restorations according to aesthetic and functional requirements, including minimal ceramic layering and coloring.
Finishing and polishing of the crowns in accordance with clinical requirements.
Clinical and laboratory collaboration, including fitting, correction, delivery, and long-term outcome.

Part 5. /hands on/ clinical

We strongly recommend using individual binoculars with an additional light source

Diagnosis and choice of tactics.
Stretching of tissues in the TSC.
Periodontal treatment of a cracked tooth.
Production and fixation of temporary direct restoration taking into account periodontal sealing.
Analysis of clinical cases and discussion.

Technical equipment.

TeFFrol (PTFE material)
Micromotor

TSC Models
TSC Tool Kits
A set of tools (mirror, tweezers)
Booster tip for turbine bores (KaVo 1:5)
Burs: flame (10,12 green and red), olive (green, red),
Impression material (A or C silicone)
Flowble composite material
Glycerin
Luxatemp Automix
Brushes
Paper for mixing

Part 5. /hands on/ laboratory

- Demonstration of EXOCAD modeling of two types of bionic crowns
- Skills practice on an analog model:
1. Planning and definition of the subgingival border of the crown
2. Adaptation and contouring of the subgingival crown to soft tissue
3. Personalization and coloring
4. Finishing and polishing