



## International Educators Conference

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### MODERN TRENDS IN IMPLANTOLOGY AND DENTISTRY

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#### Introduction

Modern dentistry is rapidly evolving, offering patients innovative solutions for tooth restoration. One of the key areas is dental implantology, which allows for the effective replacement of lost teeth while maintaining functionality and aesthetics. New technologies, materials, and techniques are making implantation more accessible, safer, and more predictable.

#### Materials and Methods

The study examined modern dental implant technologies, analyzed clinical data from patients, and reviewed scientific publications on the topic.

#### Materials used in implantology:

- **Titanium implants** – the most popular due to their high biocompatibility.
- **Zirconia implants** – offer high aesthetics and hypoallergenic properties.
- **Bone grafting materials** – used in cases of insufficient bone volume.

#### Implantation methods:

1. **Classical two-stage implantation** – involves implant placement followed by prosthetics after osseointegration.
2. **Single-stage implantation** – the implant and temporary crown are placed in a single visit.
3. **Basal implantation** – used in cases of bone deficiency, eliminating the need for bone grafting.
4. **Digital navigational implantation** – involves the use of computer modeling for precise implant placement.



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### Main Part

Implantology is one of the most promising fields in dentistry. In recent years, significant progress has been made in developing new materials and technologies, contributing to the increased success rate of procedures.

#### Key modern trends:

- **Use of digital technologies** – 3D scanning, computer modeling, and navigational surgery allow for high-precision implant placement.
- **Biocompatible materials** – the widespread use of titanium and zirconia reduces the risk of rejection and accelerates the osseointegration process.
- **Minimally invasive methods** – minimally invasive techniques shorten rehabilitation time and reduce postoperative discomfort.
- **Immediate loading implants** – modern techniques allow for the placement of prosthetics immediately after implantation, reducing treatment time.

However, despite significant progress, there are certain contraindications, such as severe forms of diabetes, oncological diseases, and acute inflammatory processes in the oral cavity.

### Conclusion

Implantology continues to develop actively, offering patients safe and effective methods of tooth restoration. The introduction of digital technologies, the improvement of materials, and advanced treatment methods enhance the success rate of implantation and improve patients' quality of life. In the future, even more comfortable and accessible solutions in this field can be expected.

### References

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