

# ERO Working Group Meeting

Digitalisation in Dentistry – E-Health –  
Artificial Intelligence

May 2, 2025 | 8:00 – 10:00 AM |  
ASTANA1, Almaty



HARVARD MEDICAL SCHOOL  
Executive Education

*acknowledges that*

**Roman Smucler**

*has completed*

**AI in Health Care: From Strategies to Implementation**

April 2025

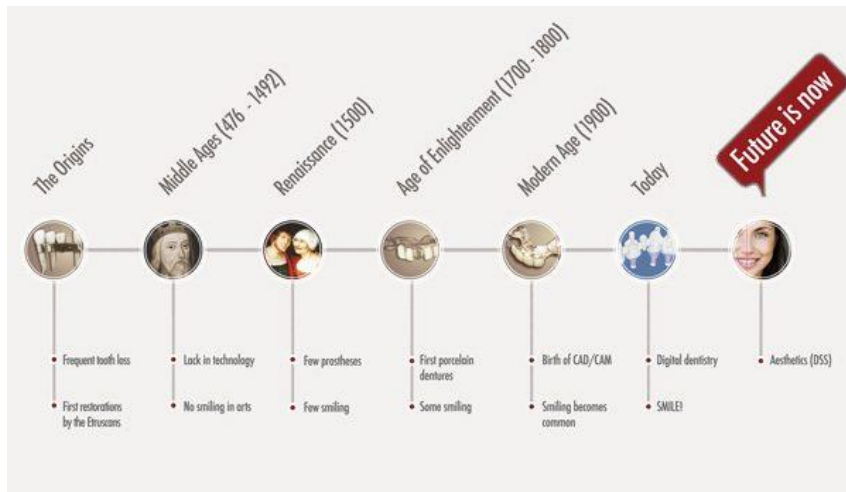
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Andrew Beam, PhD  
Assistant Professor,  
Department of Epidemiology,  
Harvard T.H. Chan School of Public Health

# Era of ERO President Simona Dianišková



# Dentistry – most significant structural change at least in 100 years



# Dentistry AI as Auxiliary Tool now

## WILL DIGITAL HEALTH TECHNOLOGY REPLACE PHYSICIANS?

DIGITAL HEALTH TECHNOLOGIES WILL PLAY A LIMITED ROLE IN THESE PROFESSIONS MOSTLY SERVING AS AUXILIARY TOOLS.

DIGITAL HEALTH TECHNOLOGIES WILL HAVE AN IMPACT ON THESE PROFESSIONS BUT IT WON'T CHANGE THEIR INTERACTION-BASED NATURE.

**REPETITIVE**  
(A LARGE PART OF THE JOB IS THE SAME EVERY DAY)

**CREATIVE**  
(SOMETHING NEW HAPPENS EVERY DAY)

MANY REPETITIVE COMPONENTS OF THE JOBS WILL BE REPLACED BY TECHNOLOGIES TO CREATE SPACE FOR CREATIVE TASKS.

THESE PROFESSIONS WILL BE HEAVILY DEPENDENT ON DIGITAL HEALTH TECHNOLOGIES, MEDICAL PROFESSIONALS WILL WORK WITH THEM ON A DAILY BASIS.

**INTERACTION-BASED**  
(TALKING WITH THE PATIENT IN PERSON OR REMOTELY)

**DATA-BASED**  
(DEALING WITH DATA ABOUT OR DERIVED FROM THE PATIENT)

FUTURE TRENDS

**TMF**  
THE MEDICAL FUTURIST



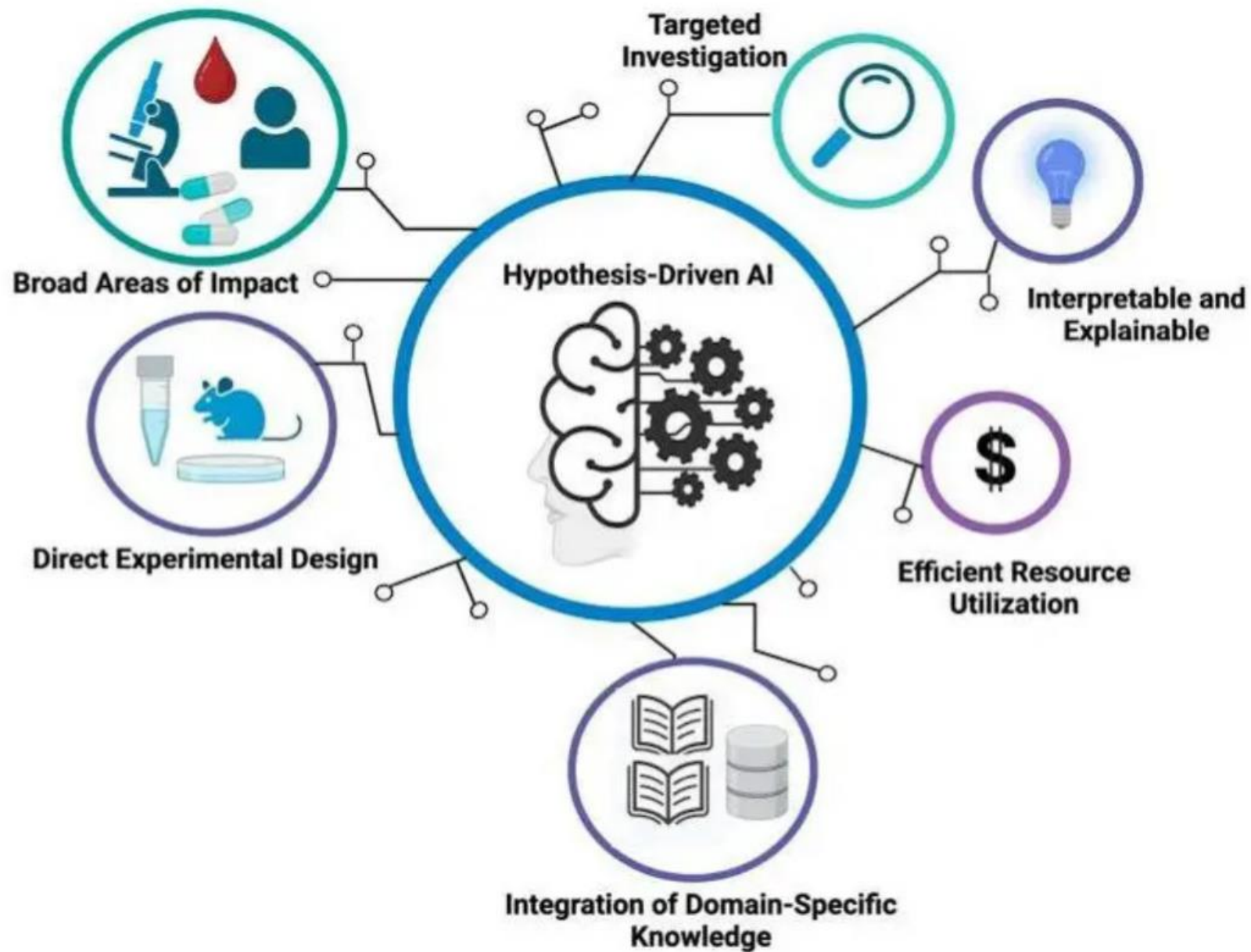
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[news](#) > article

NEWS | 12 January 2024

# Google AI has better bedside manner than human doctors – and makes better diagnoses

**Researchers say their artificial-intelligence system could help to democratize medicine.**



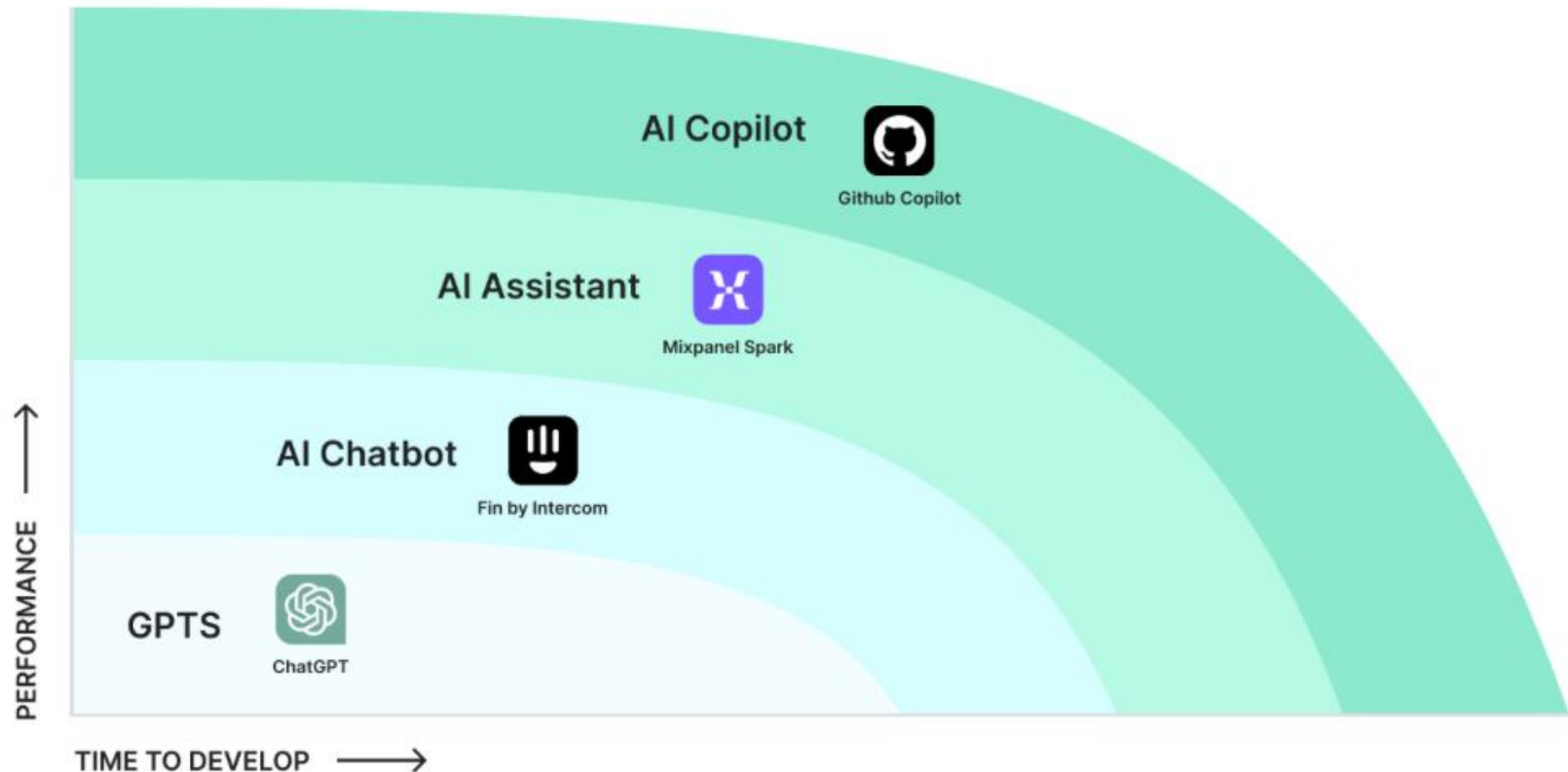


# Benefits of hypothesis-driven AI:

- **Targeted:** Focuses on specific hypotheses or research questions.
- **Leverages existing knowledge:** Guides exploration to find previously missed connections.
- **More interpretable:** Results are easier to understand than with conventional AI.
- **Reduced resource needs:** Requires less data and computing power.
- **"Machine-based reasoning":** Helps scientists test and validate hypotheses by incorporating hypotheses and biological and medical knowledge into the design of the learning algorithm.



# To decrease the risk of AI hallucination, learn and have the proper tools!





Artificial Intelligence (AI) has been rapidly gaining popularity in the field of dentistry, offering a wide range of benefits such as improved accuracy in diagnosis, treatment planning, and better patient outcomes. However, like any technology, AI is not without its challenges, and there are some potential problems with AI in dentistry that need to be addressed.



# **WG Digitalization in Dentistry- E-Health-Artificial Intelligence**

**AI Recommendation - 2023**

## **WG ERO-FDI: Recommendation Material for the Use of AI in Dentistry**

### **(Position paper)**

**Introduction:** The following recommendation material aims to provide guidelines for using Artificial Intelligence (AI) appropriately in dentistry. AI can enhance diagnostic accuracy, treatment planning, and patient care. However, it is essential to establish ethical and legal frameworks to ensure the responsible and safe implementation of AI technologies in dentistry. This material aims to address critical considerations for using AI in dentistry and protect the rights and well-being of patients. FDI Science Committee works on definitions and comprehensive materials on this topic. This material summarizes critical regulatory points for setting processes in dental offices and for political negotiations at the national level.

## **1. Data Privacy and Security:**

- a. Dentists and dental practices must comply with existing data protection regulations, such as the General Data Protection Regulation (GDPR) or other applicable local regulations.
- b. Patient data in AI systems must be anonymized and stored securely to protect patient privacy.
- c. Dental professionals must obtain informed consent from patients to collect, store, and use their data in AI systems.

## 2. Transparency and Explainability:

a. AI algorithms used in dentistry should be transparent about the decision-making process

b. Dentists and dental professionals must understand the underlying decision-making process and ensure they are clinically validated and peer-reviewed.

c. Using "black-box"<sup>1</sup> AI systems, where the decision-making process cannot be explained, should be avoided or used cautiously.

d. Dentists must inform a patient about AI's use in treatment and explain the procedure according to the patient's abilities and knowledge.

e. Dentist must reveal possible business ties including the brand behind AI.

### **3. Professional Responsibility and Liability:**

- a. Dentists remain accountable for the decisions and treatments provided, even when assisted by AI systems.
- b. Dentists must be trained and competent to interpret and validate AI-generated recommendations.
- c. Liability for any adverse outcomes resulting from AI-generated recommendations should be appropriately assigned, considering the responsibilities of the dentist towards the patient.



#### **4. Ethical Considerations:**

- a. The use of AI in dentistry should adhere to ethical principles, including non-maleficence, beneficence, autonomy, and justice.
- b. AI algorithms should not be biased and should be developed with diverse patient populations in mind.
- c. The potential for AI to replace human interaction should be carefully considered, ensuring that patient trust and autonomy are maintained.

## **5. Regulation and Oversight:**

- a. National regulatory bodies and professional organizations should establish guidelines and standards for using of AI in dentistry.
- b. Humans should conduct regular audits and evaluations of AI systems to ensure compliance with regulations and ethical standards.
- c. Collaboration between dental professionals, AI developers, and regulatory bodies should be encouraged to promote responsible and safe use of AI in dentistry.

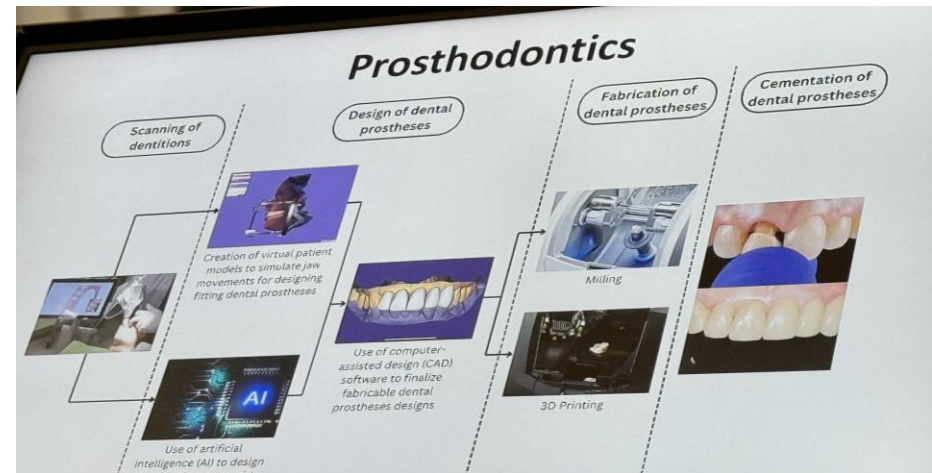
## **6. Continual Professional Development:**

- a. Educational programs and training should be provided to dental professionals to develop the necessary skills to understand and utilize AI systems effectively and ethically.
- b. Education must involve all dental team members according to their professional responsibility.
- c. Dental professionals should engage in continual professional development to stay updated with the latest advancements in AI and related ethical and legal considerations.

**Conclusion:** The recommendation outlined above serves as a starting point for governing the use of AI in dentistry. It is essential to balance the potential benefits of AI with patient safety, privacy, and ethical considerations. By following these guidelines, dental professionals can ensure that they use AI responsibly to enhance patient care while upholding professional and ethical standards.

<sup>1</sup> *Black box AI is any artificial intelligence system whose inputs and operations aren't visible to the user or another interested party. A black box, in a general sense, is an impenetrable system. Black box AI models arrive at conclusions or decisions without providing any explanations as to how they were reached.*

# Womb to Tomb Application – Hong Kong



# New curriculum? Re-education of the entire dental team?



# Prof. Ingrid Różyło-Kalinowska, MD, PhD

The study on pre-graduate education in digital dentistry in Europe

ERO FDI Working Group Digitalisation in Dentistry-E-Health-AI

## Background

In view of current important role of digital dentistry it can be hypothesised that entering the era of digital dentistry after graduation is too late for dentists. Therefore the aim of the study is to investigate status of pre-graduate education in digital dentistry in Europe.

## Material and methods

The study was conducted by means of a survey questionnaire distributed online in 2023 that included 11 multiple choice questions and 1 open question (concerning the number of dental faculties in the country of residence of the respondent). In total responses were obtained from 24 countries and 42 faculties. The results were analysed by means of descriptive statistics methods.

## Results

Teaching of digital dentistry is carried out mostly on the basis of university facilities. In vast majority of faculties education in digital dentistry is included in current curriculum but the learning objectives are spread between different subjects. In 42% digital dentistry is delivered as mandatory classes, in one third partly as mandatory and partly as elective, and in the remaining institutions as elective classes only. In 90% pre-graduate education in digital dentistry is delivered to dental students.

## Discussion and conclusions

To the best authors' knowledge this is the first study that aims at investigation of status of pre-graduate education in digital dentistry in Europe. The obtained results point out that the need of education in digital dentistry is perceived by university educators, however the curricula are far from standardization in every aspect. They vary considerably regarding years of studies in which digital technologies are introduced, educational forms, facilities, target groups, mandatory or elective subjects. It can be assumed that nowadays implementation of teaching of digital dentistry progresses at a very fast pace, which means that changes of curricula also must be frequent and follow trends of digitization in dental practice.



# Education

## ADEE Annual Meeting 2024

7-10 September in Leuven, Belgium

[More info here](#)



### **Implementation of Teleconsultation in European Dentistry**

Teledentistry refers to using telecommunication technology to provide dental care and services remotely. It encompasses patient consultation, diagnosis, treatment planning, education, and management of dental conditions.

Teledentistry can be delivered through various means, such as video conferencing, telephone calls, and the exchange of digital images and clinical information. Teledentistry aims to improve access to dental care by reducing barriers related to distance, mobility, and resource distribution. It also aims to contribute to the efficiency of dental care delivery and facilitate patient education and self-management of oral health. Teleconsultation is the possibility of conducting a medical consultation and informed consent for future procedures remotely through secure online communication.

## **Arguments supporting Teleconsultation:**

- **Increased access to care:** Teleconsultation can reduce barriers and improve access to care for individuals in remote areas or with mobility issues.
- **Improved efficiency and reduced costs:** Teleconsultations can save time and resource usage, potentially leading to reduced healthcare costs.
- **Enhanced continuity of care:** Teleconsultations can facilitate ongoing communication and monitoring between patients and dentists, improving care continuity.
- **Reduced risk of transmission of infectious diseases:** Teleconsultations can decrease the risk of exposure to communicable diseases in both clinical settings and public transportation.
- **Sustainability:** Teleconsultation can protect the environment by decreasing travel and use of materials.
- **Improved Quality of Care:** Information based on the latest Diagnostic and Therapeutic Modalities

## Teleconsultation can be done:

- **Between doctors** – when a general practitioner seeks assistance from a specialist, such as a second opinion on the diagnosis, a more indicated medication, or even live guidance when performing a procedure. The patient may or may not be present. This modality is called tele-interconsultation.
- **Between doctor and patient**– directly, without the mediation of another doctor or healthcare professional.

as well as

- **Synchronous** – the interaction is immediate.
- **Asynchronous** – input and output take place at different times and do not allow direct interaction.

## Challenges and considerations:

- **Regulation and legal frameworks:** Clear and consistent regulations regarding data privacy, security, and licensing requirements are necessary across Europe.
- **Reimbursement models:** Establishing appropriate reimbursement models for teleconsultation is crucial for their sustainability and accessibility.
- **Technology and infrastructure:** Ensuring equitable access to reliable technology and infrastructure across Europe is essential for inclusive implementation.
- **Dentist training and competency:** Dentists must be adequately trained and equipped to provide effective and safe teleconsultation.
- **Equity and inclusion:** Addressing potential disparities in access to technology and digital literacy to ensure equitable access to tele dentistry for all.

## Legal and regulatory framework:

- **Health policy compliance:** Teleconsultation must align with European health policies and directives, particularly on eHealth and cross-border healthcare.
- **Data protection:** Address compliance with the General Data Protection Regulation for handling patient data, ensure privacy and security measures are in place, and maintain adequate cyber security measures.
- **Licensing and professional standards:** Dentists must be licensed according to local law to practice teleconsultations as an integral part of dentistry and ensure they meet professional standards, duties, and regulations. Eventual cross-border teleconsultation must respect local rules on both sides

|

## **Ethical considerations:**

- **Patient consent:** Emphasize the importance of informed consent, ensuring patients understand the nature and limitations of teleconsultations.
- **Quality of care:** Ensure that teleconsultation does not compromise the quality of dental care and adheres to established clinical guidelines and standards.

## **Technical requirements and infrastructure:**

- **Technology standards:** Specify the technical standards and requirements for teleconsultations, including interoperability, security, and usability.
- **Access and equity:** Address measures to ensure equitable access to teleconsultation, including for patients with limited digital literacy.



## **Implementation Strategy:**

- **Pilot programs:** Propose initiating pilot programs to evaluate the efficacy, safety, and patient satisfaction of teleconsultation in various European regions.
- **Training and education:** Highlight the need for training programs for dental professionals and awareness campaigns for patients.

## **Evaluation and monitoring (for local responsible authorities):**

- **Performance metrics:** Define metrics for evaluating the success of teleconsultation initiatives, including patient outcomes, access improvements, and cost-effectiveness.
- **Regulatory oversight:** Outline a framework for ongoing regulatory oversight and quality assurance of teleconsultation.



# Artificial Intelligence in medicine and dentistry – spring 2025

doc. MUDr. Roman Šmucler, CSc.



# 1/ Systematic Reviews and Failure Prediction:

- AI facilitates systematic reviews, predicts implant failure rates, and aids in detecting complications using radiographs and CT scans, thereby optimizing treatment processes and outcomes (Amiri et al., 2023)

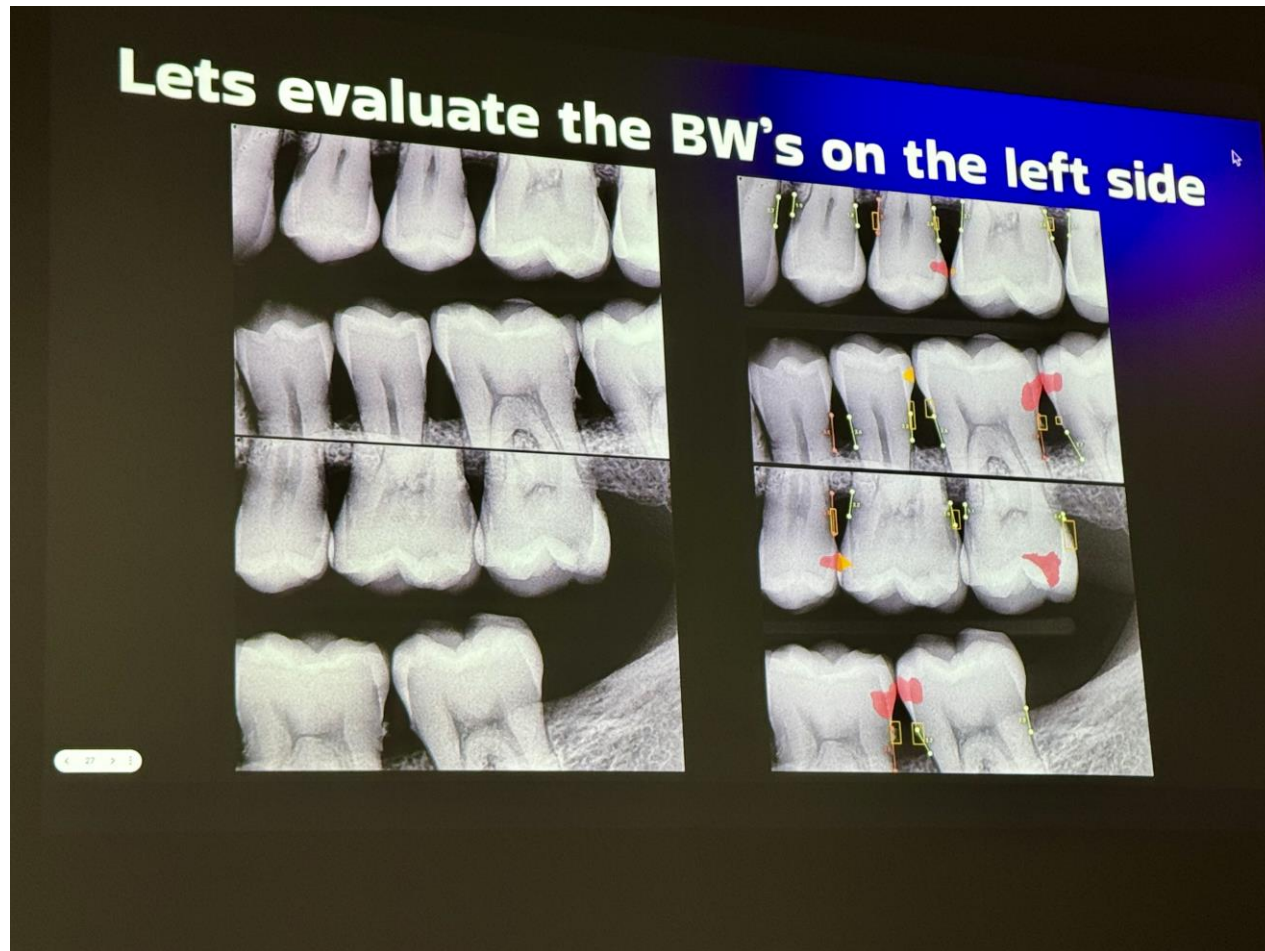
# Who can read all „papers“ daily, including general medicine?

- Literature overview – use copilots and the best possible AI !!
- Individual information for the specific patient according to all data he/she has – medication (do you know all labels?), blood tests, history, previous implant surgeries- real informed consent!!!

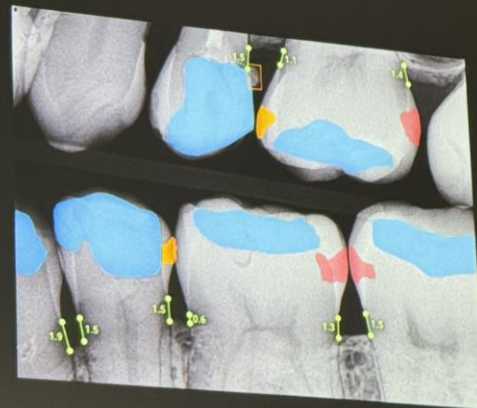
## 2/ Automated Implant Planning and Image Analysis:

- AI assists in automated implant planning, providing visualized anatomic guidance and image analysis, enhancing implant placement accuracy (Altalhi et al., 2023).

Under workload – up to 40% bitewings are wrongly analyzed! (Merlens J. of Dentistry 2021)

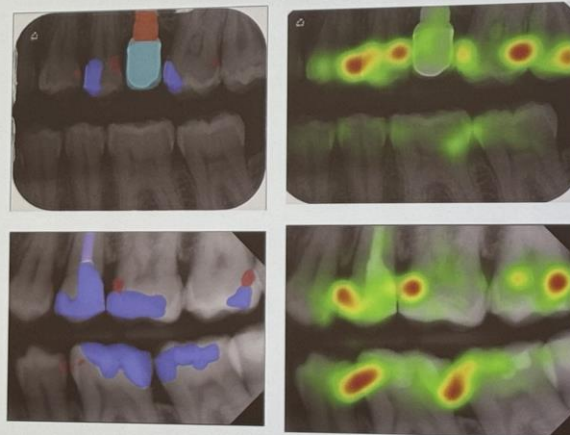
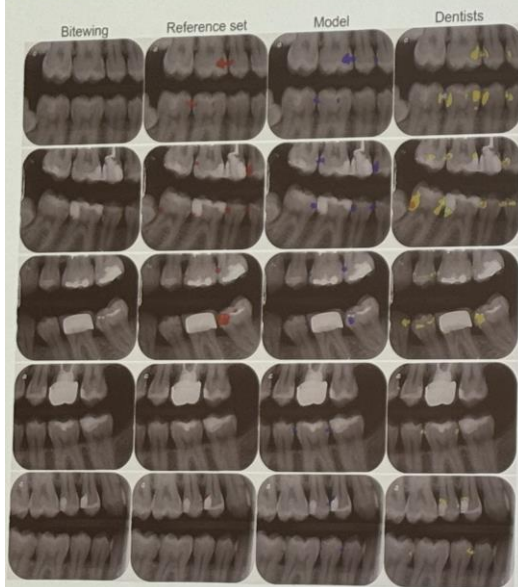


## AI BUILT FOR PATIENT COMMUNICATION

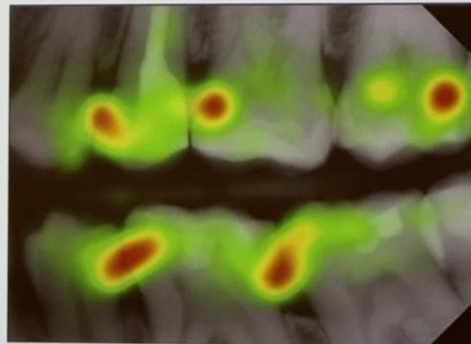
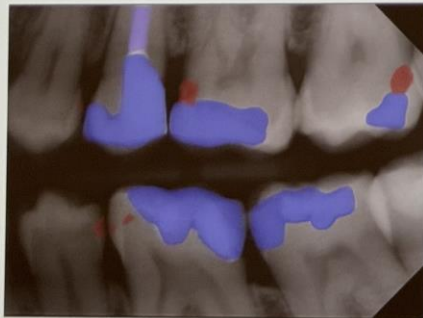
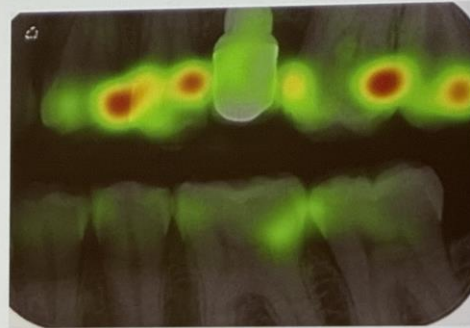




## Problem 1: Unmeasured impact

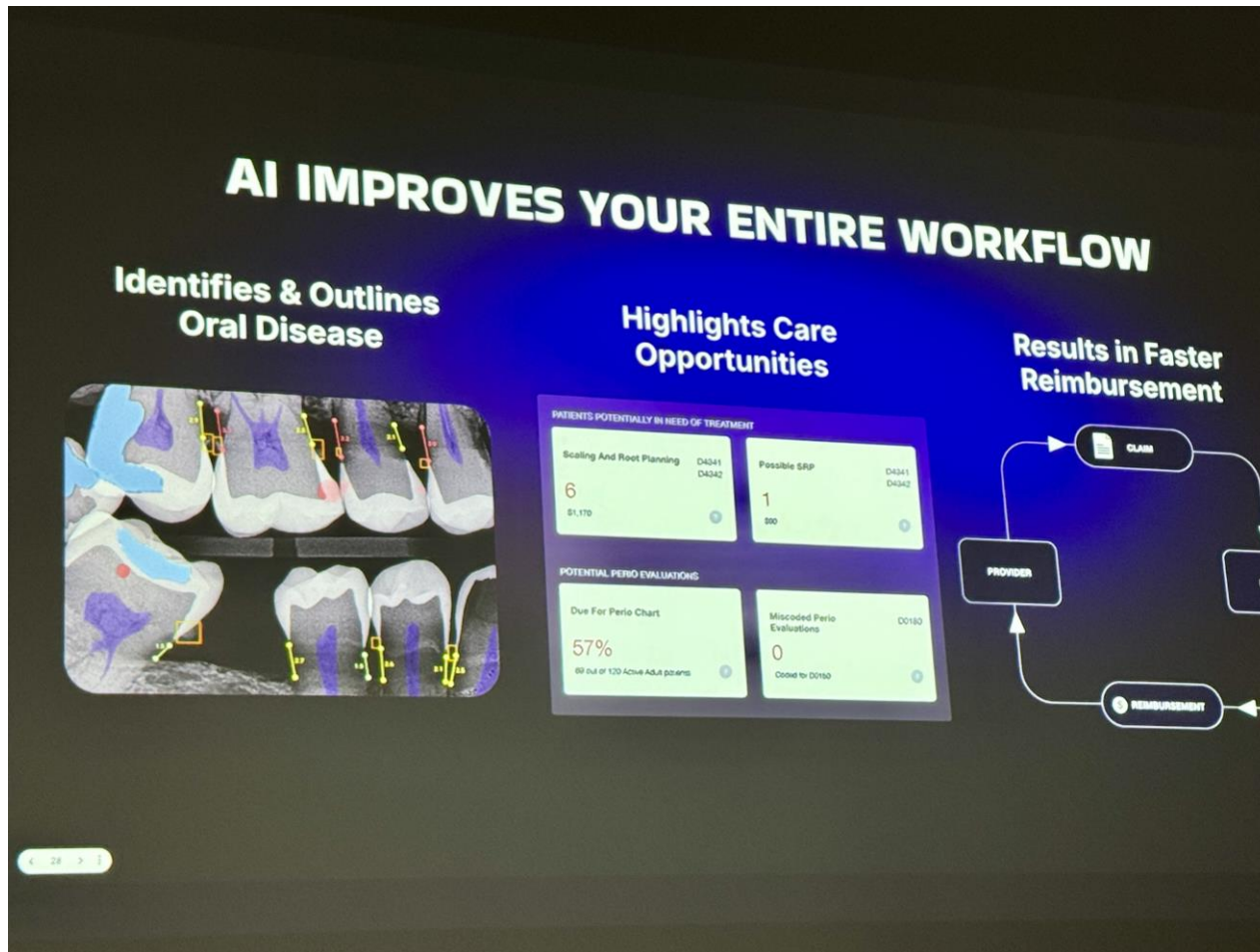


Mertens et al. J Dent 2021



Mertens et al. J Dent 2021

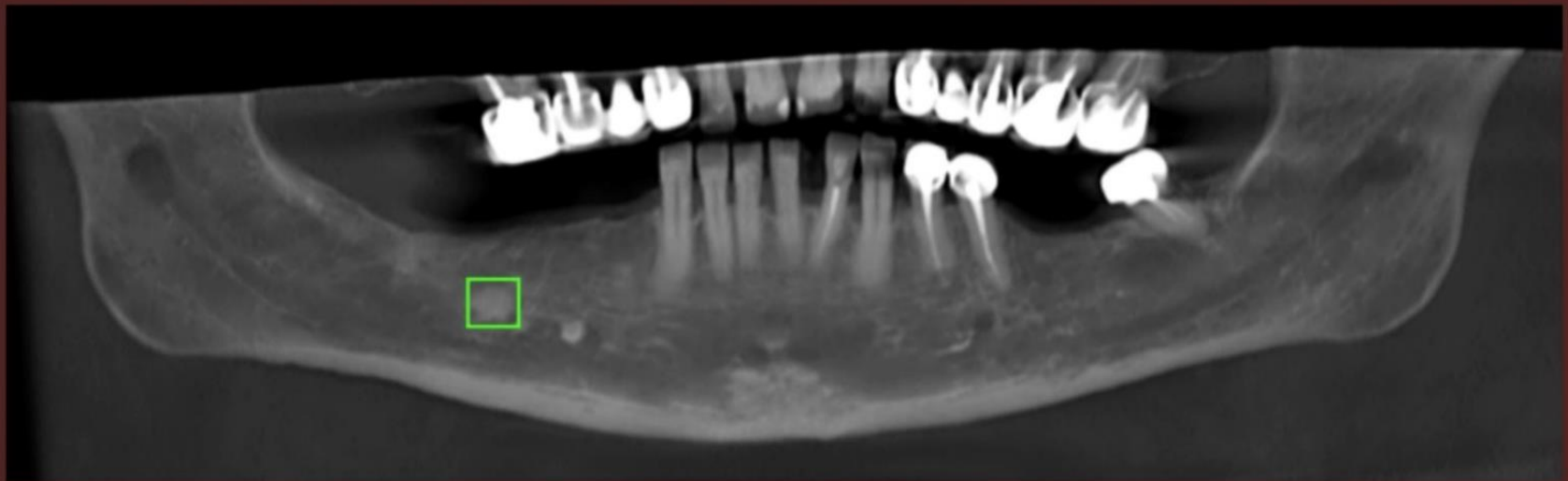
# Reporting for health insurance companies and patients



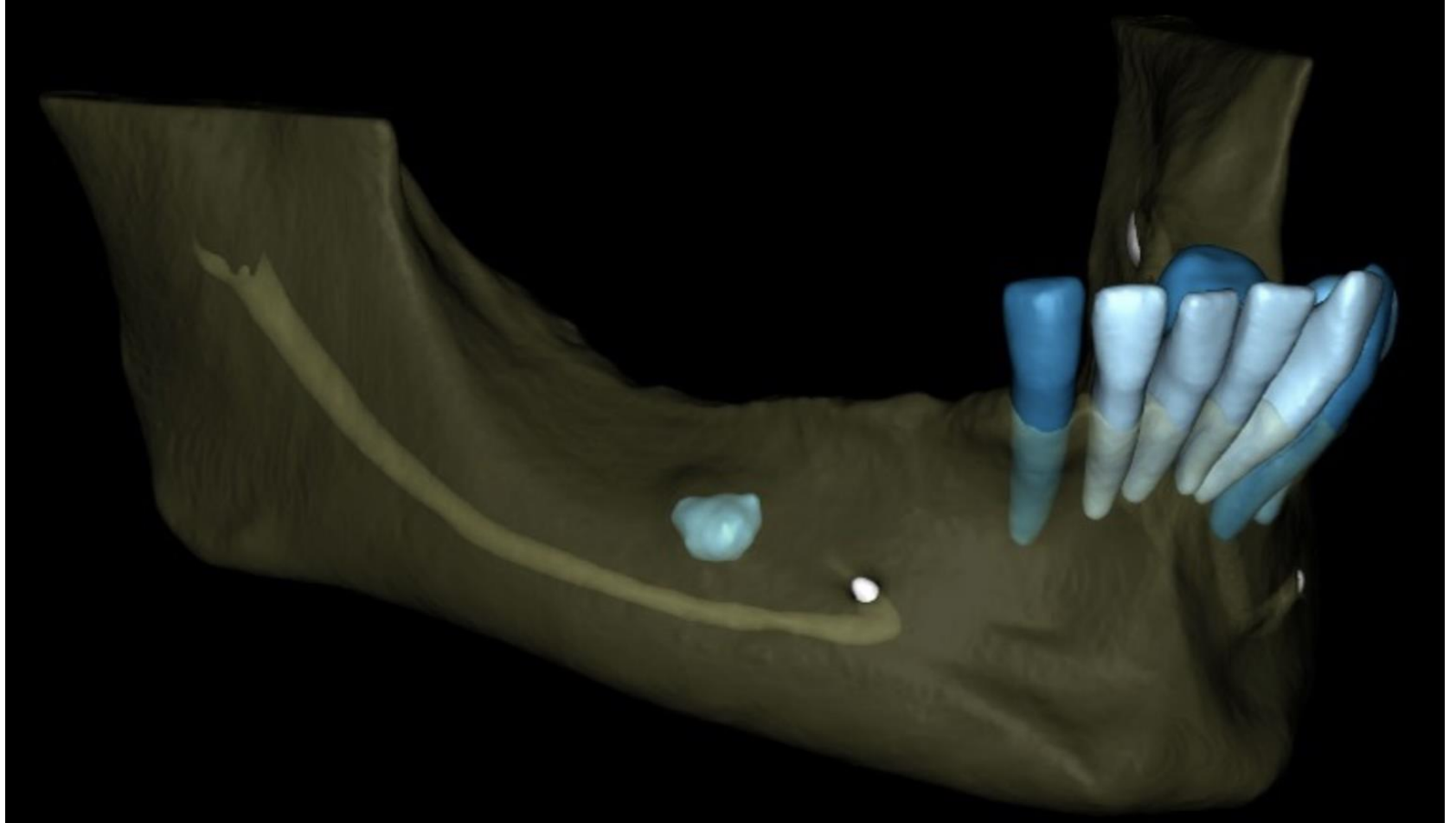


## Non-typical clinical case (Rare pathology)

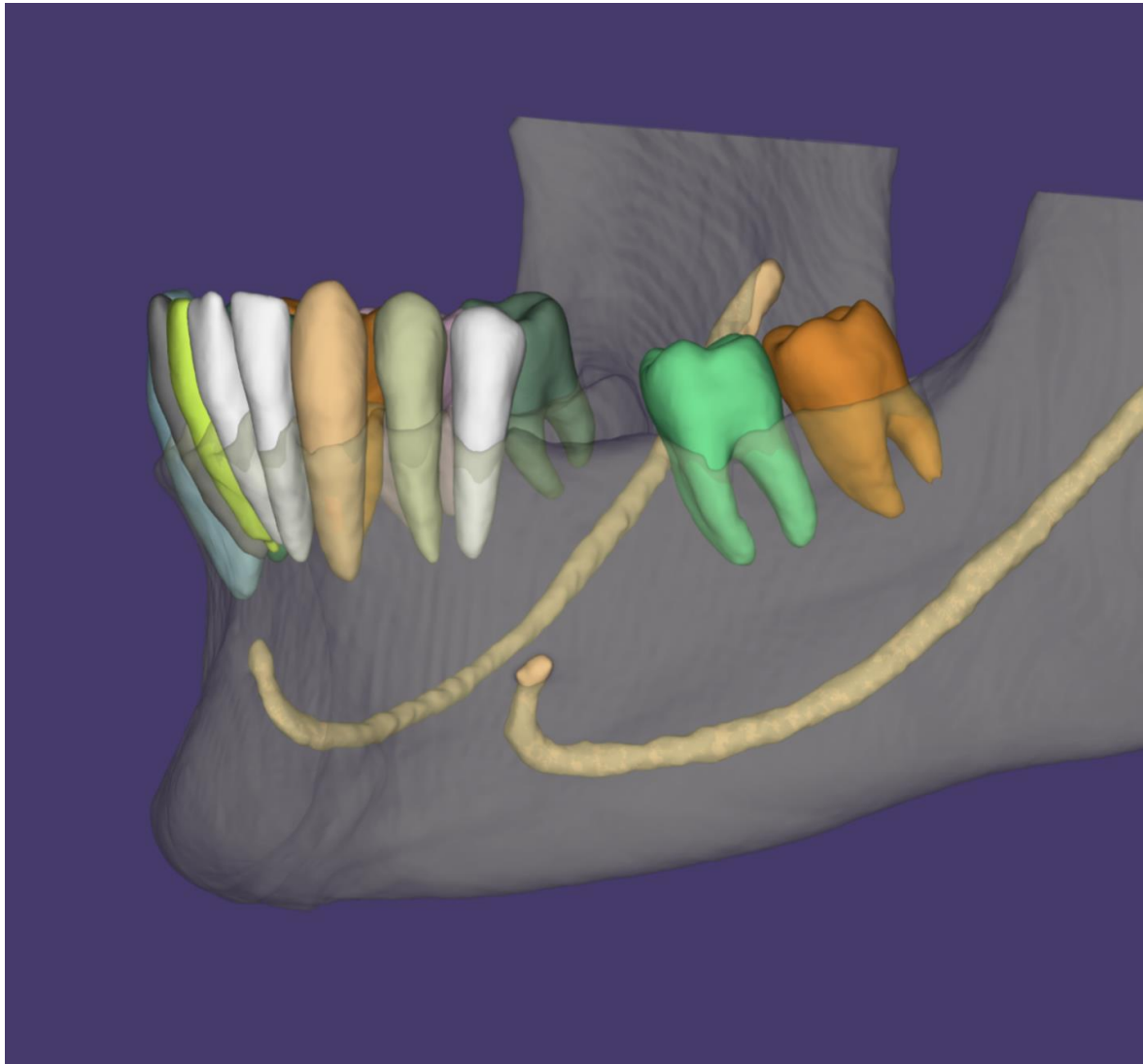
Detected a rare pathology that requires special examination by a radiologist



Signs of bone structure disorder.



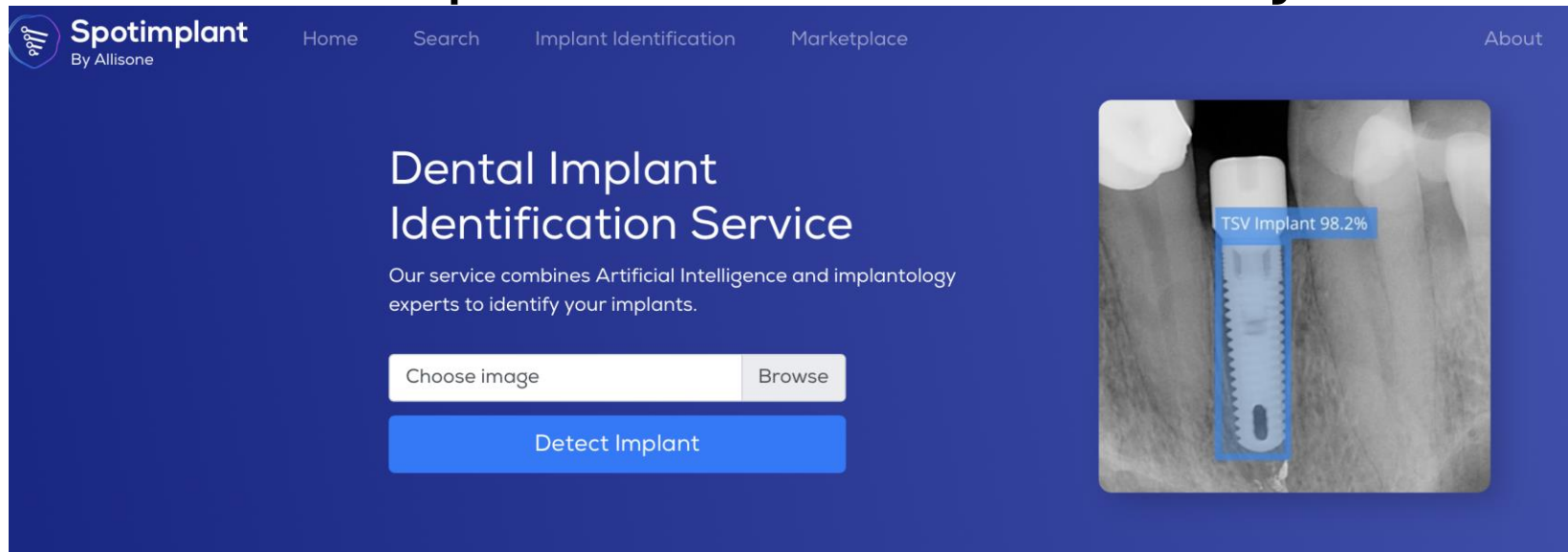
# Better prediction of critical structures



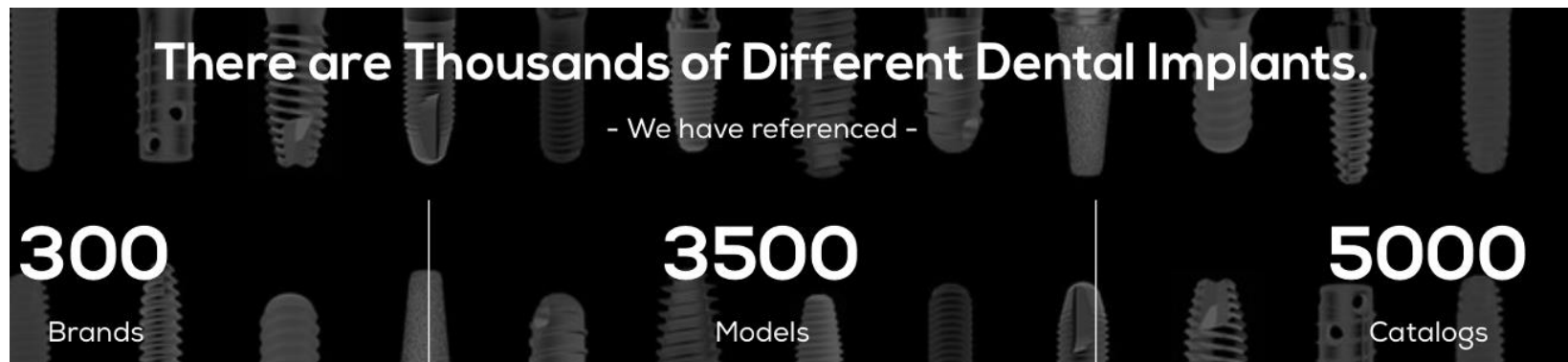


# Automated Implant Planning and Image Analysis:

- Previous implant detection on X-Ray



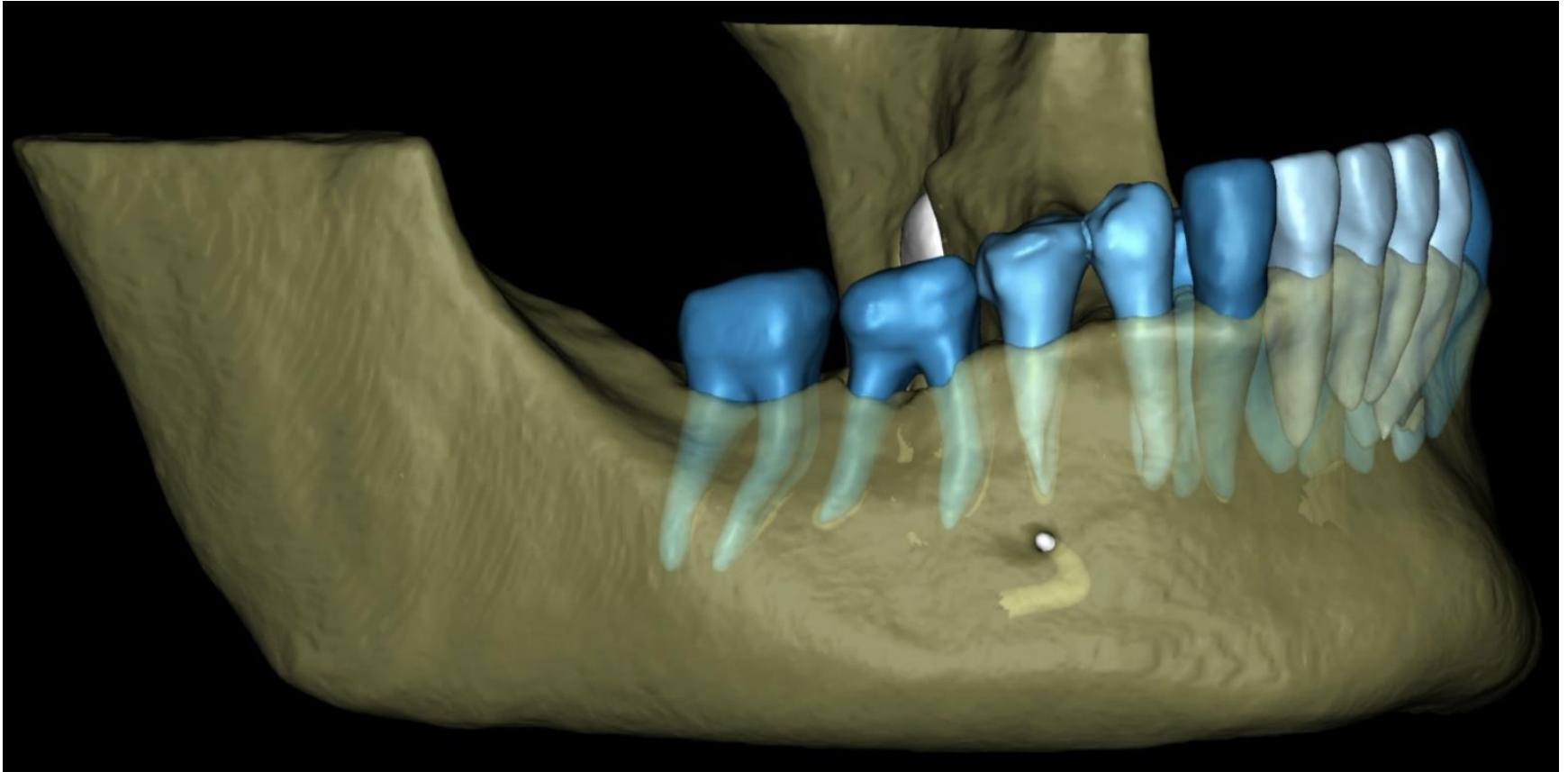
The screenshot shows the Spotimplant website, which is a platform for dental implant identification. The header includes the Spotimplant logo (By Allisone) and navigation links for Home, Search, Implant Identification, Marketplace, and About. The main content area features the title "Dental Implant Identification Service" and a description: "Our service combines Artificial Intelligence and implantology experts to identify your implants." Below this is a form with a "Choose image" input field, a "Browse" button, and a prominent blue "Detect Implant" button. To the right of the form is a sample X-ray image of a dental implant. A blue bounding box is drawn around the implant, and a label "TSV Implant 98.2%" is displayed next to it, indicating the system's high accuracy in identifying the specific implant type.



This infographic highlights the extensive database of dental implants referenced by Spotimplant. It features a dark background with a pattern of various dental implant types. The text "There are Thousands of Different Dental Implants." is prominently displayed at the top, followed by the phrase "- We have referenced -". Below this, three columns present the scale of the database: "300 Brands", "3500 Models", and "5000 Catalogs".

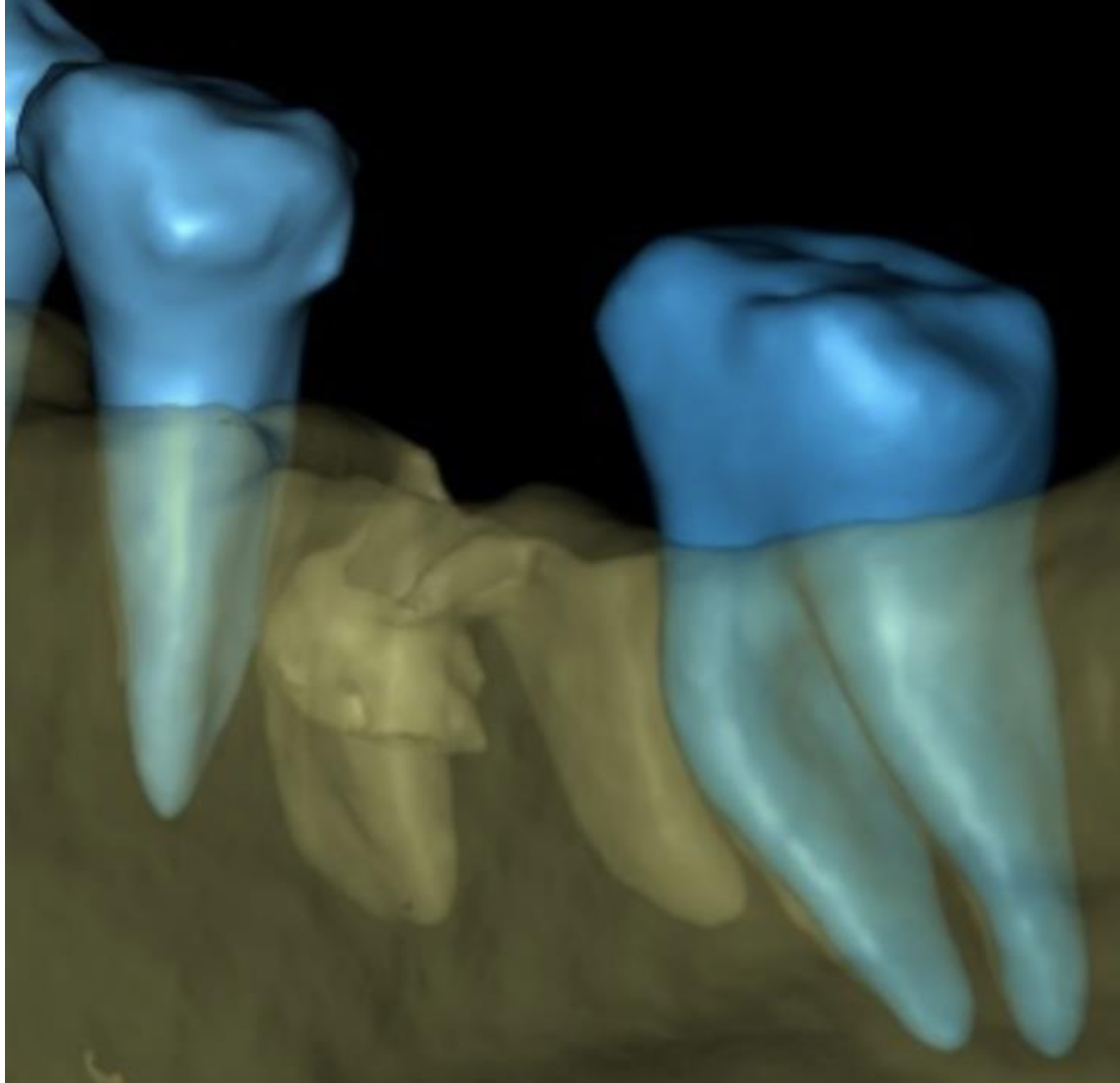
Category	Count
Brands	300
Models	3500
Catalogs	5000

# Virtual Tooth Extractions

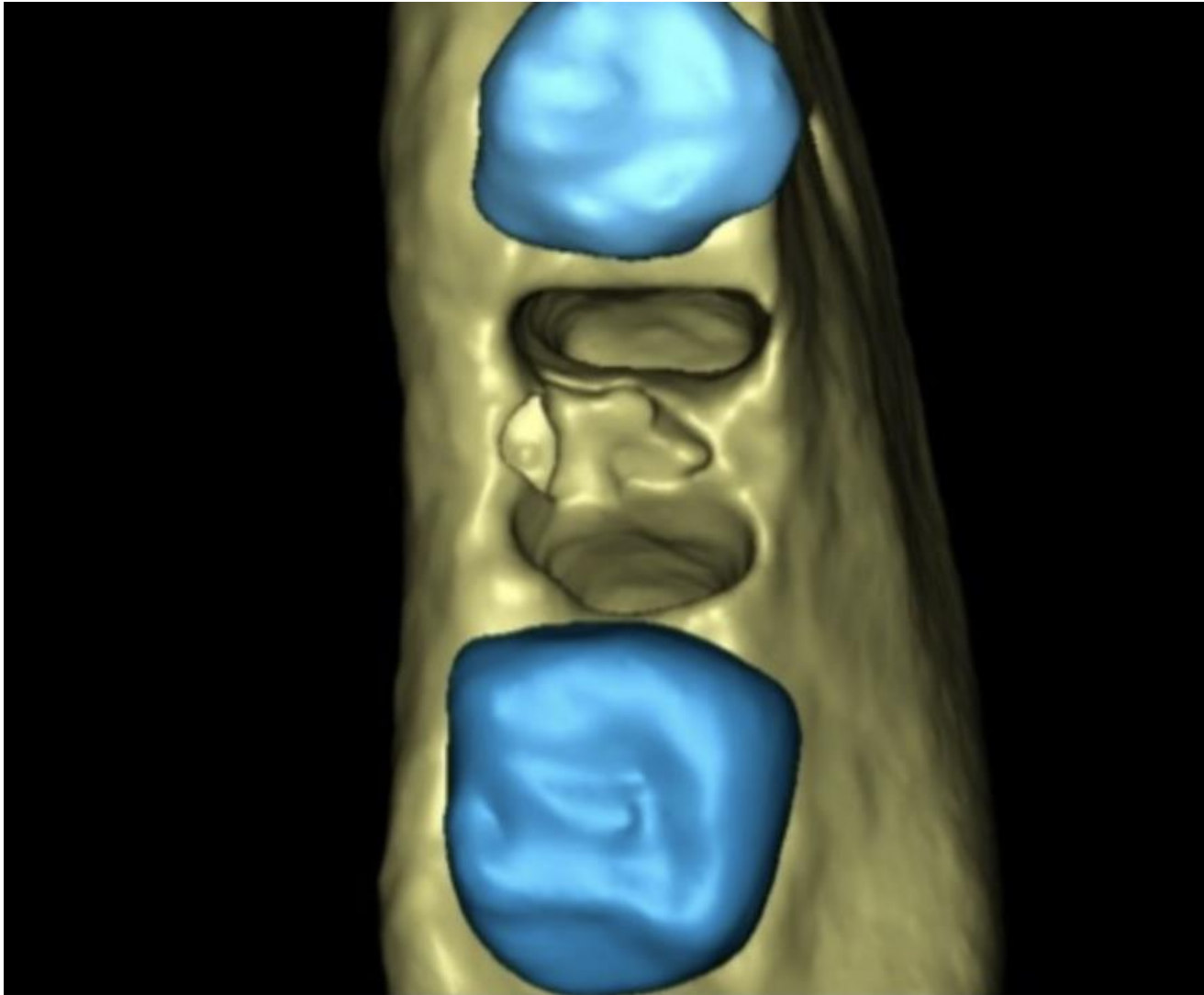




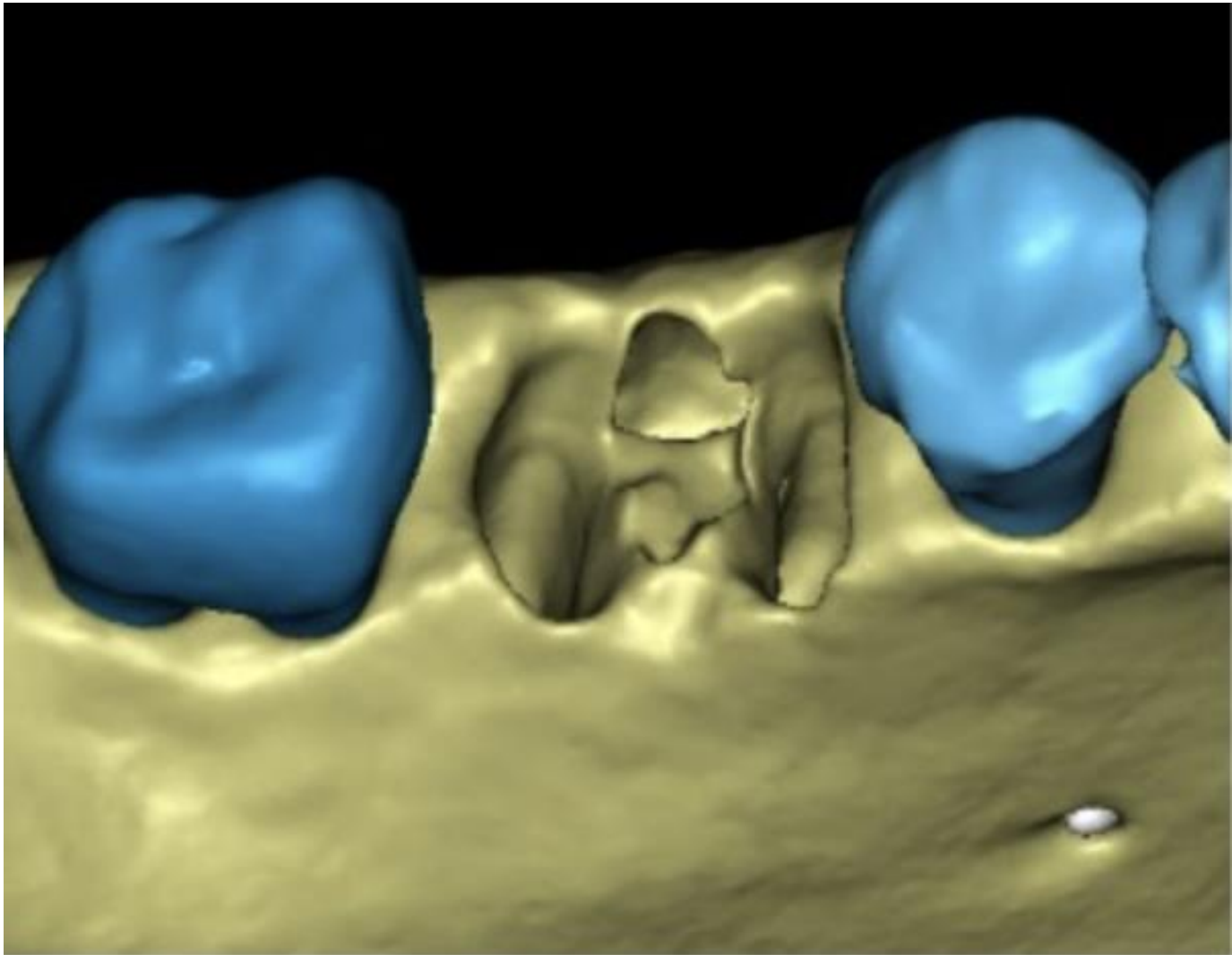
# Virtual Tooth Extractions



# Virtual Tooth Extractions



# Virtual Tooth Extractions



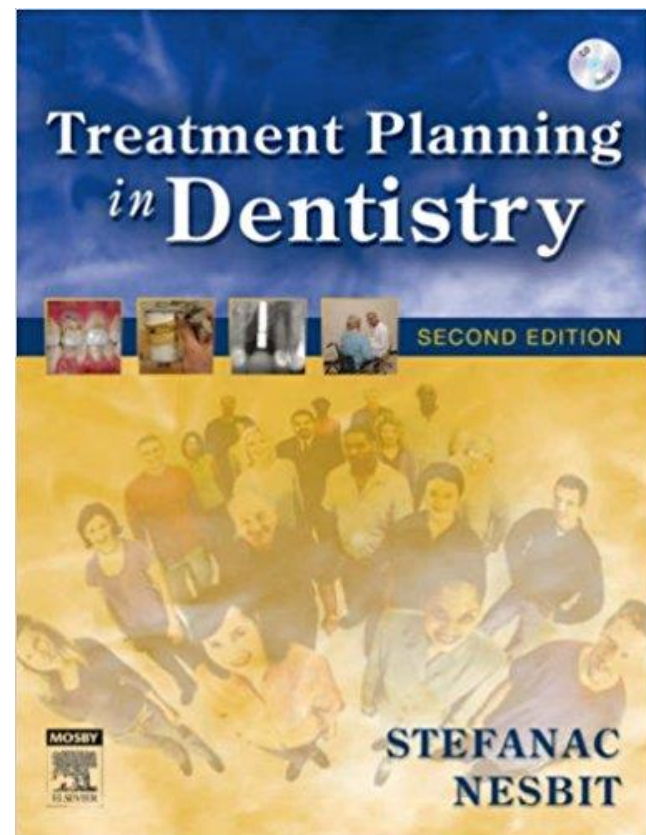
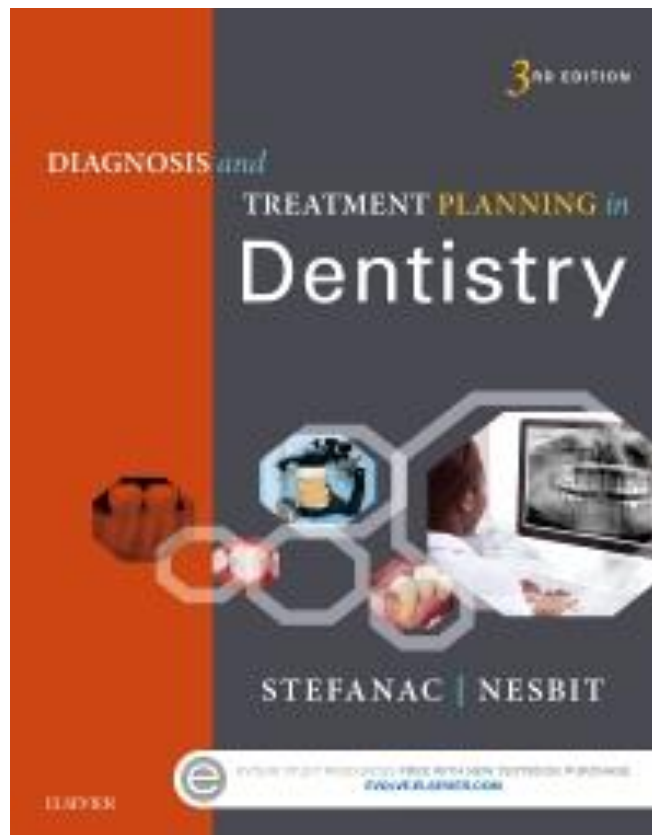
### 3/ Patient Education and Engagement:

- AI enhances patient education and engagement by providing personalized reports, helping patients understand their treatment options and expected outcomes (Revilla-León et al., 2021).

We are selling out the most precise thing—time. How do you value one minute of your life? Market value?



# Informed consent – old ways

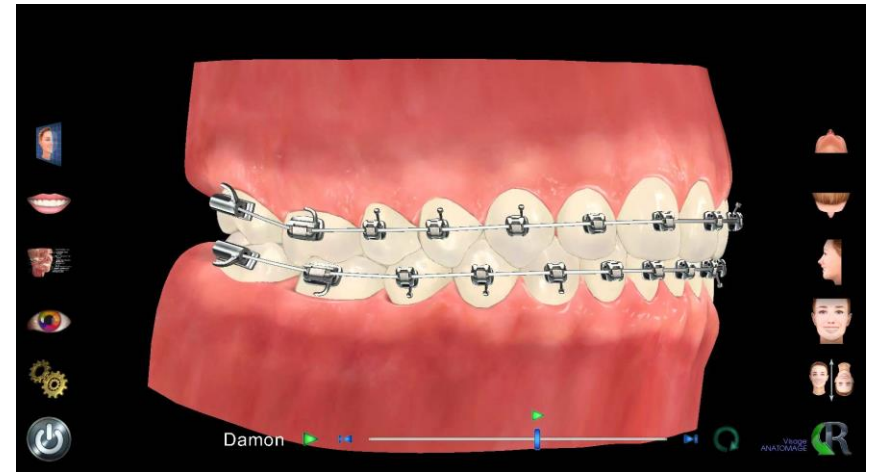


# What can GTP 4.0 with copilot say to Croatian patient about crestal sinus lift immediately

- Crestalni sinus lift je minimalno invazivni postupak koji se koristi za podizanje sinusa membrane i omogućavanje postavljanja dentalnih implantata u stražnjoj gornjoj čeljusti, posebno kada je visina kosti ograničena. Ovaj postupak općenito se smatra sigurnim i učinkovitim, s visokom stopom uspjeha i upravljivim stopama komplikacija.
- Metoda
- Crestalni sinus lift može se izvoditi različitim tehnikama, uključujući upotrebu osteotoma ili metodu balonskog lifta. Izbor tehnike često ovisi o specifičnoj kliničkoj situaciji i preferencijama kirurga. Neke studije izvještavaju o korištenju bušilica i osteotoma u nizu, što se pokazalo učinkovitim za dobivanje adekvatne visine kosti za postavljanje implantata (Lumbau et al., 2021).
- Stope uspjeha
- Stope uspjeha za implantate postavljene nakon crestalnih sinus liftova općenito su visoke. Studije su pokazale stope uspjeha koje variraju od 94% do 100% tijekom različitih razdoblja praćenja, što ukazuje na povoljan ishod za dentalne implantate postavljene ovom tehnikom (Soardi et al., 2013), (Urban et al., 2010).
- 
- Komplikacije
- 
- Komplikacije povezane s crestalnim sinus liftovima su relativno rijetke, ali mogu uključivati perforaciju membrane, infekciju i, rjeđe, sinusitis. Pravilna tehnika i pažljivo kirurško planiranje mogu minimizirati te rizike. Na primjer, retrospektivna studija pokazala je vrlo nisku stopu intra- i postoperativnih komplikacija kada se koristi Cosci tehnika u usporedbi s drugim metodama (Checchi et al., 2010).
- 
- Zaključak
- 
- Ukupno gledano, postupak crestalnog sinus lifta za postavljanje dentalnih implantata u stražnjoj gornjoj čeljusti vrlo je uspješan, s visokom stopom preživljavanja implantata i niskom stopom komplikacija. To je izvediva opcija za pacijente s nedovoljnom visinom alveolarne kosti, pružajući siguran i učinkovit način za poboljšanje dentalne funkcije i estetike.



# Fully automated AI driven informed consent with unlimited number of questions, before and after Tx





# Informirani pristanak za provedbu crestalnog sinus lifta i postavljanje dentalnih implantata

Ime pacijenta: \_\_\_\_\_

Datum: \_\_\_\_\_

## 1. Opis postupka

Crestalni sinus lift je minimalno invazivni kirurški zahvat koji se provodi s ciljem podizanja sinusalne membrane i omogućavanja postavljanja dentalnih implantata u stražnji dio gornje čeljusti, posebice kada je visina kosti ograničena. Postupak može uključivati korištenje osteotoma ili balonsku tehniku, ovisno o specifičnim kliničkim potrebama i preporuci vašeg kirurga.

## 4/ Predictive Modeling and Simulation:

- AI applications include predictive modeling for implant success using patient-specific data and virtual surgical simulation, which help forecast and plan the treatment (Shan et al., 2020).

File Edit Tools View Panels Model Virtual Teeth Module Help

Start Wizard LabPronto PurchaseExports

CT\_Surgical Guide: SIDEXIS Anonymous272\_DICOMRM  
272\_DICOMRM

Model Master

Continue to Implant Planning >>

Surfaces

STL Surfaces

Name	Visible	Hint	Color
case 1 gingiva stl	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<div></div>
Tooth LL1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<div></div>
Tooth LL2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<div></div>
Tooth LL3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<div></div>
Tooth LL4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<div></div>
Tooth LL5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<div></div>
Tooth LL7	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<div></div>

Duplicate

CT Surfaces

Name	Visible	Hint	Color
Original	<input type="checkbox"/>	<input type="checkbox"/>	<div></div>

Add Duplicate

Reset to Defaults

Create Model

Surface Definition

Minimum  500

Maximum  3000


Material

Specular  1.00

Shininess  8.00

Transparency  0.00

1280 x 720

 **BlueSkyPlan.com**  
Powered by BlueSky AI

# Confirm Implant Placement with NEW Completely Automatic CT Teeth Segmentation

## 5/ AI-assisted Robotic Surgery:






- AI is increasingly used to assist in robotic surgeries, ensuring precise and minimally invasive procedures tailored to the individual patient's anatomy (Bodhe et al., 2022).









# AI-assisted Robotic Surgery:










- YOMI- 50000 implants and counting
- 6 implants in. 90 seconds...
- Decreasing need for experience

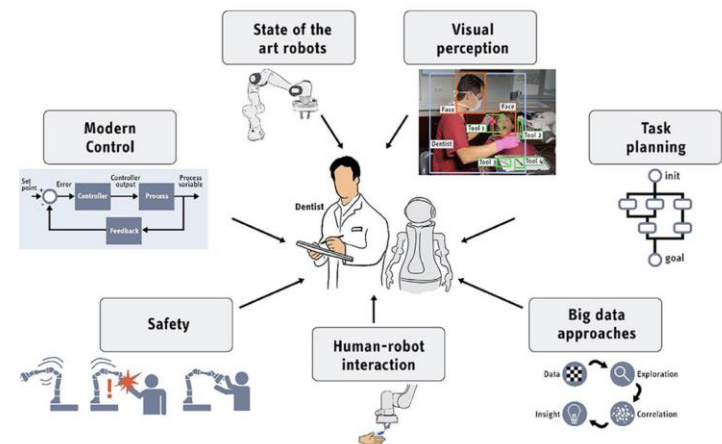


# AI models for free today - demo with 1053 only one AI this morning

- 
**Mentor Dental**  
 Nobel-level expert in dentistry, medicine, and research, offering exhaustive, u...  
 Autor: Biomez SpA 30+
- 
**Dental Student Mentor**  
 A mentor for dental students, providing educational support and guidance.  
 Autor: the1ai.com 30+
- 
**SaaS Dental Marketing Mentor**  
 A SaaS marketing mentor focused on dental software startups.  
 Autor: Mark Evans 3
- 
**Dental Care Mentor**  
 Assistant for dental professionals and patients, offering tailored advice and a...  
 Autor: DONG HO LEE 5
- 
**Mental Mentor**  
 Your thinking and problem-solving mentor.  
 Autor: Kyle W Voisard 8

- 
**NHS Dentistry Recovery Plan Discussion**  
 Autor: Vivian Nzeigbulem 8
- 
**Plumas Family Dentistry & Implant Center**  
 A Digital Marketing Agency of Plumas Family Dentistry in Yuba City, California  
 Autor: D5mark Solutions 30+
- 
**Data Scientist - Medicine and Dentistry**  
 Data Scientist in clinical and epidemiological data analysis.  
 Autor: VITOR H D ROMERO 60+
- 
**Medical and Dentistry Research Paper Converter**  
 Hỗ trợ viết, tóm tắt, định dạng, chỉnh sửa và tạo các phần của bài báo nghiên cứu...  
 Autor: PHAM THANH NAM 4
- 
**Dr Stana BOSIC**  
 Dentistry development.  
 Autor: Luxey SARL 7
- 
**Smile Guide**  
 Expert in pediatric dentistry guidance.  
 Autor: gazezi.com 10+
- 
**Valencia Dental Expert**  
 Determined curriculum specialist for Valencia's Dentistry program.  
 Autor: Breno Sampaio 10+
- 
**HeyBot | My Teeth Bot**  
 Talk to your Dentistry Records (in development)  
 Autor: CloudEvolve 30+

- 
**Dentistry Insight**  
 Dental expert for professionals, covers all aspects of dentistry with technical ...  
 Autor: Peter A Pickering 10K+
- 
**Dentistry Mentor**  
 Guiding dental professionals with insights and advice.  
 Autor: community builder 10+
- 
**Dentistry Exam Builder**  
 Creates advanced dentistry MCQs, QROCs, and exams in French  
 Autor: Raphael Richert 30+
- 
**AI in Dentistry Guide**  
 Explore our AI Consulting Guide! Unlock AI's potential in any business ...  
 Autor: TMBT Innovations 20+
- 
**My dentistry reference**  
 Autor: KRAKUNA ENTERPRISES (OPC) PRIVATE LIMITED 40+
- 
**Scholar of painless Dentistry**  
 Dental pain management, Dental sedation and dental Anesthesiology  
 Autor: jing quan 10+
- 
**Thomas Dentistry Social Media**  
 https://thomas-dentistry.com/  
 Autor: Rohit Sharma 30+
- 
**Little Red Pediatric Dentistry**  
 Autor: Kevin Kamis 20+
- 
**Dental Review Manager | Case Dentistry**  
 Customer review manager for dental practices with adaptable communication.  
 Autor: Case Dentistry 30+



# Consultation





# Consultation

Na základě dostupných informací a ceníku kliniky Asklepion vám předkládám orientační finanční návrh pro komplexní stomatologickou léčbu zahrnující implantaci a protetické náhrady.

## 1. Diagnostika a plánování léčby:

- **Konzultace se stomatologem:** 700 Kč
- **Intraorální rentgen:** 200 Kč
- **Panoramatický rentgen:** 750 Kč
- **Komplexní vyšetření:** od 1 600 Kč
- **CT rentgen (pokud je potřebný):** 3 000 Kč

## 2. Chirurgická fáze – zavedení implantátů:

- **Zavedení zubního implantátu Dentis:** od 16 200 Kč za implantát

*Poznámka:* Celkový počet implantátů potřebných pro fixní náhradu celého oblouku závisí na individuálním plánu léčby a stavu čelistní kosti. Obvykle se používá 4 až 6 implantátů na jeden oblouk.

## 3. Protetická fáze – zhotovení fixní náhrady:

- **Celokeramická korunka:** 8 100 Kč za korunku
- **Celokeramický můstek (např. 3členný):** od 32 970 Kč

*Poznámka:* Celková cena protetické náhrady závisí na počtu korunek nebo členů můstku potřebných k obnovení funkce a estetiky chrupu. [Asklepion](#)

## 4. Další možné náklady:

- **Dentální hygiena (vstupní návštěva):** 2 000 Kč
  - **Ošetření specialistou na dentální hygienu:** 1 880 Kč
  - **Kontrolní návštěva:** 1 050 Kč
- Poznámka:* Pravidelná dentální hygiena je klíčová pro dlouhodobý úspěch implantátů a protetických náhrad.

## Orientační kalkulace pro jeden oblouk:

- **Diagnostika a plánování:** 6 250 Kč
- **Chirurgická fáze (např. 4 implantáty):** 64 800 Kč
- **Protetická fáze (např. 12 korunek):** 97 200 Kč

**Celkem:** 168 250 Kč

*Poznámka:* Tato kalkulace je orientační. Přesný plán léčby a konečná cena budou stanoveny po konzultaci s odborníkem na základě individuálního stavu pacienta a jeho potřeb.

Pro detailnější informace a stanovení přesné ceny doporučuji domluvit si konzultaci na klinice Asklepion.



# ERO Working Group Meeting

Digitalisation in Dentistry – E-Health –  
Artificial Intelligence

May 2, 2025 | 8:00 – 10:00 AM |  
ASTANA1, Almaty



# 1. Artificial Intelligence (AI) in Dentistry

- Data Quality and Standardization for AI training
- Ethical guidelines: bias, IP rights, patient data protection
- Regulatory frameworks and legal implications

## 2. Teledentistry Developments

- Advancements and current challenges
- Regulatory clarity on practice and patient eligibility
- Case studies from various countries and organizations

# 3. Education in Digital Dentistry

- Assessing digital competencies in pre-grad education
- Standardized guidelines for continuing education
- ADEE collaboration insights

## 4. Cybersecurity and Data Protection in Dentistry

- New threats and required cybersecurity measures
- Secure communications and data storage best practices

# 5. Integration of Digital Tools in Clinical Workflows

- Successful case studies of tool integration
- Challenges of interoperability with EDHS and cloud

## 6. Patient Perspective and Communication

- Improving patient understanding of digital technologies
- Effective communication of benefits, risks, and privacy



# Do you want?

- Autumn webinar for national dental bodies
- AI edited stream of informations

# Prof. Falk Schwendicke, Munich





Discover Tomorrow's Dentistry  
in the Heart of Magical Prague

**4–7 September 2026**

Prague | Czech Republic

See you in  
**PRAGUE**