LAMINATE VENEERS

Evidenced-Based Clinical Protocols

Markus B. Blatz

QUINTESSENCE PUBLISHING

Berlin | Chicago | Tokyo
Barcelona | London | Milan | Paris | Prague | Seoul | Warsaw
Beijing | Istanbul | Sao Paulo | Sydney | Zagreb

One book, one tree: In support of reforestation worldwide and to address the climate crisis, for every book sold Quintessence Publishing will plant a tree (https://onetreeplanted.org/).

QUINTESSENCE PUBLISHING DEUTSCHLAND

Quintessenz Verlags-GmbH
Ifenpfad 2–4
12107 Berlin
Germany
www.quintessence-publishing.com

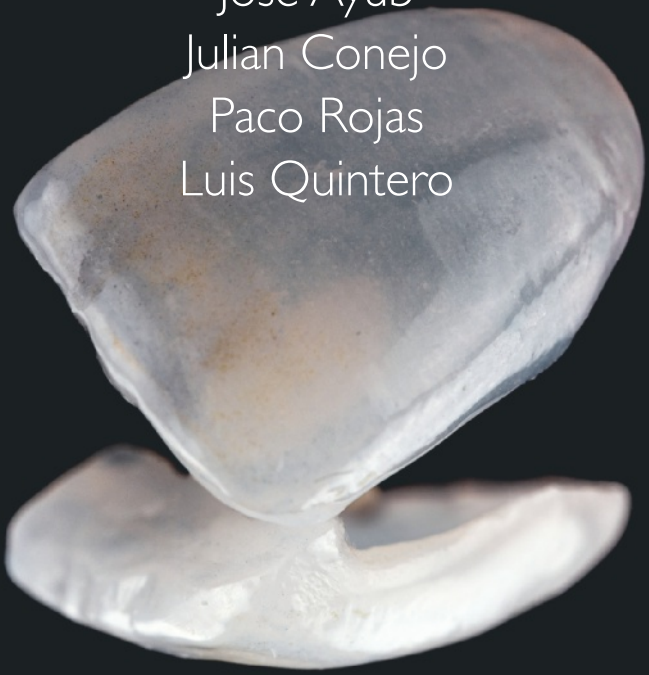
Quintessence Publishing Co Ltd
Grafton Road, New Malden
Surrey KT3 3AB
United Kingdom
www.quintessence-publishing.com

Editing, production, and reproduction: Quintessenz Verlags-GmbH, Berlin, Germany
ISBN 978-1-78698-142-4

Printed and bound in Croatia by Grafički zavod Hrvatske d.o.o.

CO-AUTHORS

Ulrike Blatz
José Ayub
Julian Conejo
Paco Rojas
Luis Quintero



with contributions from

Ralph Georg
Miladinov Milos

EVIDENCE-BASED CLINICAL PROTOCOLS

This series of pocketbooks, based on my social media posts, serves as a concise guide for contemporary clinical protocols and the supporting scientific evidence

Prof Dr med dent habil Markus B. Blatz (DMD, PhD) is Professor of Restorative Dentistry, Chairman of the Department of Preventive and Restorative Sciences, and Assistant Dean for Digital Innovation and Professional Development at the University of Pennsylvania School of Dental Medicine in Philadelphia, Pennsylvania, USA. He graduated from the University of Freiburg, Germany, and received an additional Doctorate degree, Prosthodontics certificate, and the academic titles of Privatdozent and Professor from the same university. Prof Blatz has published and lectured extensively and is involved in numerous scientific dental journals as Editor-in-Chief, Associate Editor, and Editorial Board Member.

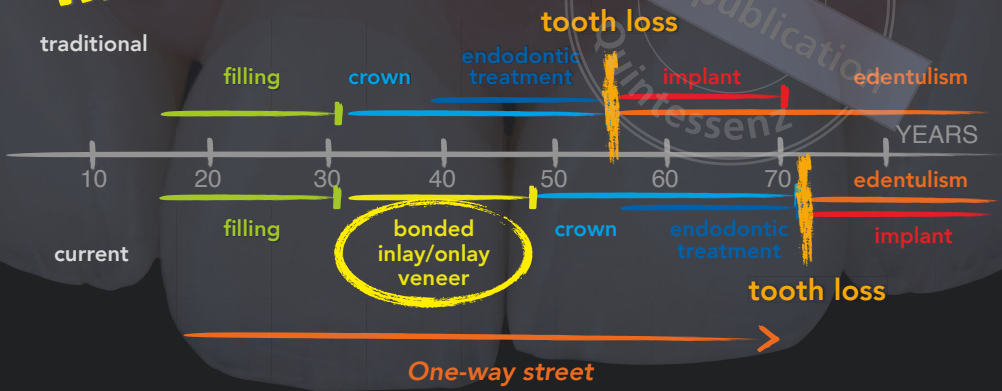
DIAGNOSTICS AND PLANNING

Our **main responsibility** as **dentists** is to help our **patients keep** their natural **teeth as long as possible**

For that, we have to be

MINIMALLY INVASIVE

MINIMALLY INVASIVE



This graph illustrates the life cycle of a tooth undergoing restorative treatment

To move the "tooth loss" bar to the right, we must perform every step as minimally invasively as possible and apply current adhesive dentistry protocols and materials to stop the progression or "buy time" until the next, more invasive treatment step

Note that this is a one-way street

Resin-bonded **laminate veneers** are indicated when the possibilities of **direct composite** restorations are exceeded and a **full-coverage crown** is not (yet) needed

Their **excellent clinical long-term success** has been documented in numerous scientific studies and shown to largely depend on the **clinician's expertise, technique,** and **handling**

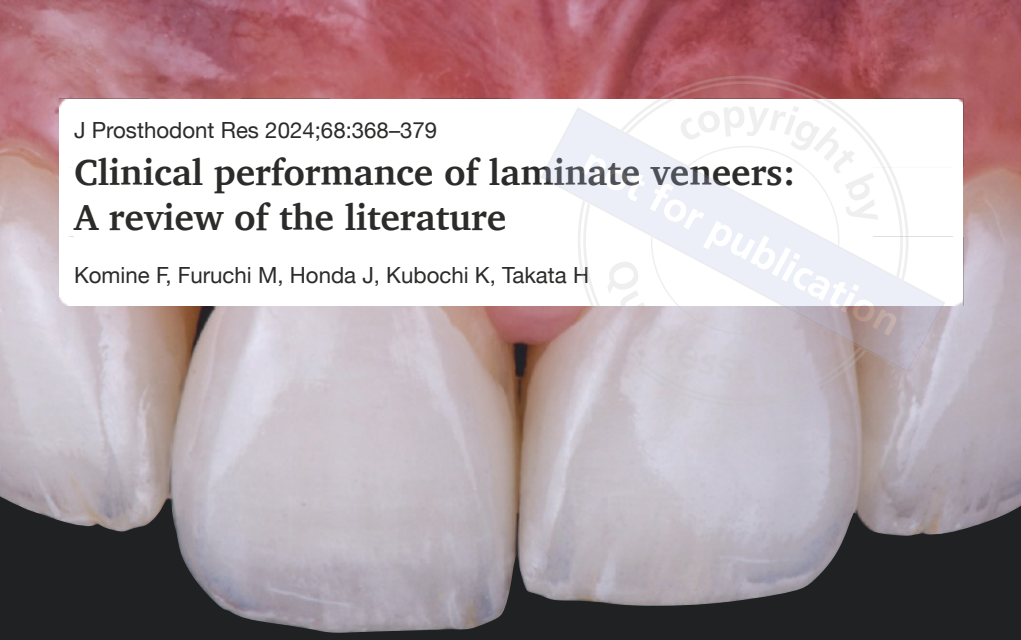
INDICATIONS

Diastemas
Discolored or stained teeth
Small **defects**
Malpositioned/malaligned teeth
Malformed teeth

CONTRAINDICATIONS

Heavy **bruxism**
Insufficient or **inadequate enamel**
Heavily **damaged** or **short** teeth
Oral **habits/malocclusion**
Severe **crowding** or malpositioning

Severely **malpositioned** teeth may require (prior) **orthodontic treatment**
Severely **discolored** teeth may require prior **tooth bleaching/whitening**



J Prosthodont Res 2024;68:368–379

Clinical performance of laminate veneers: A review of the literature

Komine F, Furuchi M, Honda J, Kubochi K, Takata H

CLINICAL SURVIVAL
of laminate veneers

95% to 100% up to 5 years
83% to 100% up to 10 years
73% to 95% more than 10 years

J Clin Med 2021;10:1074

Long-term survival and complication rates of porcelain laminate veneers in clinical studies: A systematic review

Alenezi A, Alsweed M, Alsidrani S, Chrcanovic BR

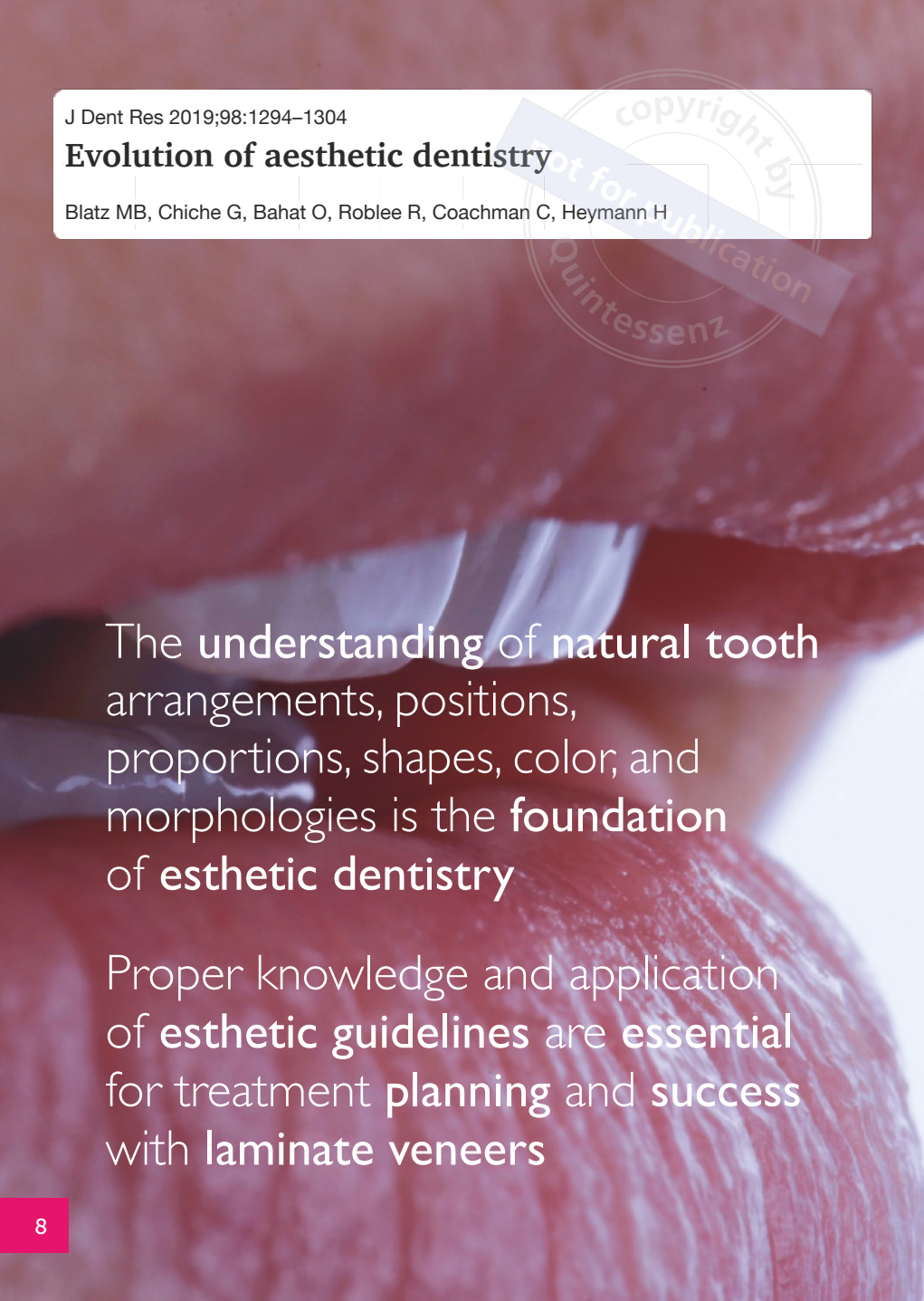
CLINICAL SURVIVAL of laminate veneers

The 10-year estimated cumulative survival rate was 95.5%

J Dent Res 2019;98:1294–1304

Evolution of aesthetic dentistry

Blatz MB, Chiche G, Bahat O, Roblee R, Coachman C, Heymann H



The **understanding** of **natural tooth** arrangements, positions, proportions, shapes, color, and morphologies is the **foundation** of **esthetic dentistry**

Proper knowledge and application of **esthetic guidelines** are **essential** for treatment **planning** and **success** with **laminate veneers**

Int J Periodontics Restorative Dent 2014;34:623–629

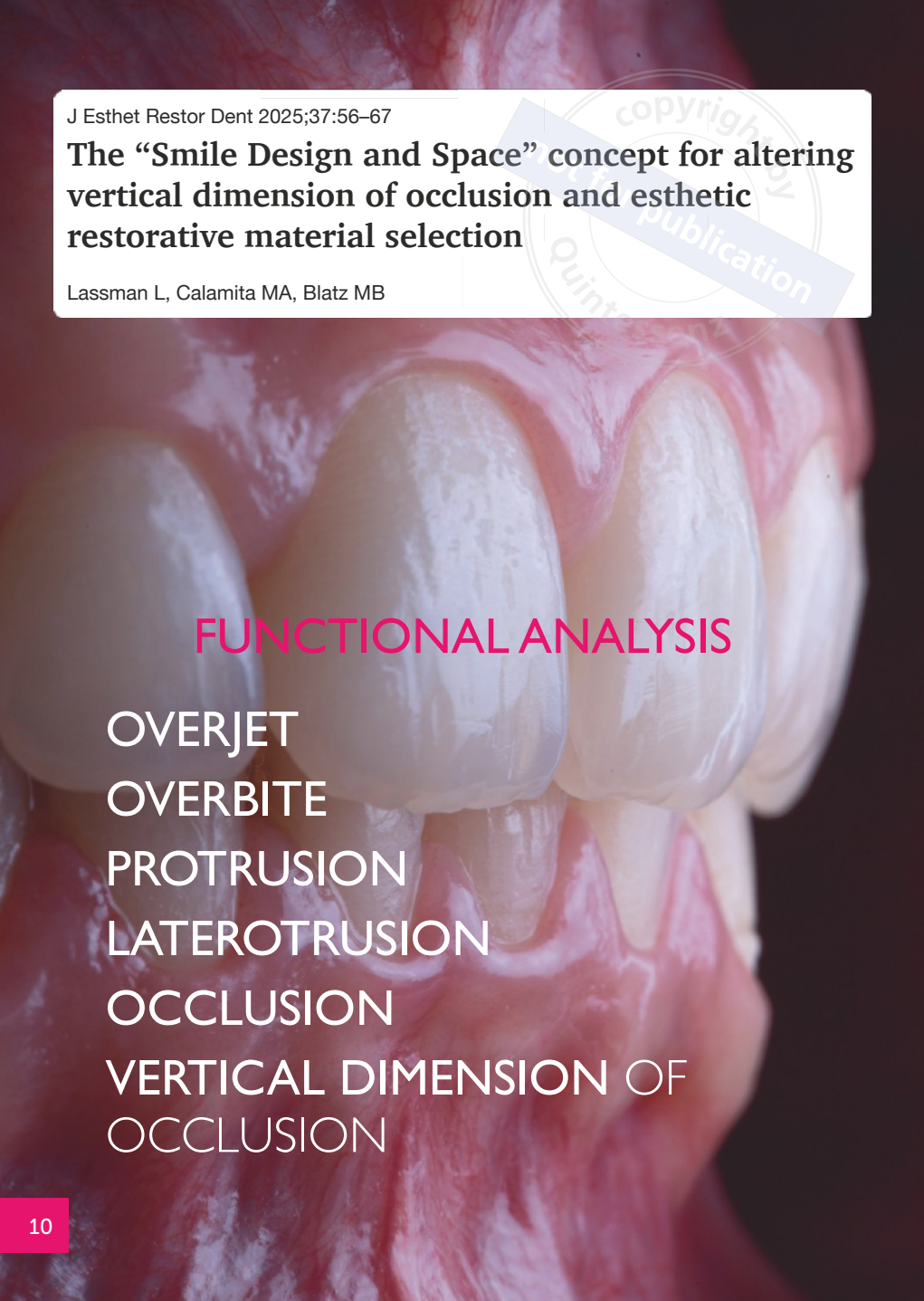
Analysis of select facial and dental esthetic parameters

Nold SL, Horvath SD, Stampf S, Blatz MB

J Esthet Restor Dent 2025;37:56–67

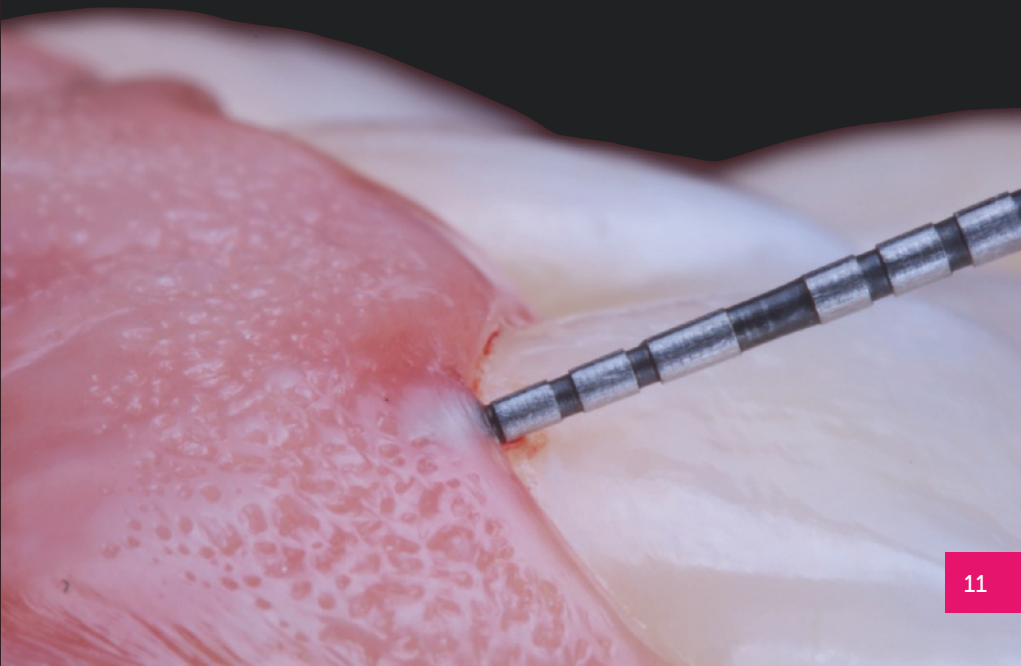
The “Smile Design and Space” concept for altering vertical dimension of occlusion and esthetic restorative material selection

Lassman L, Calamita MA, Blatz MB



PERIODONTAL ANALYSIS

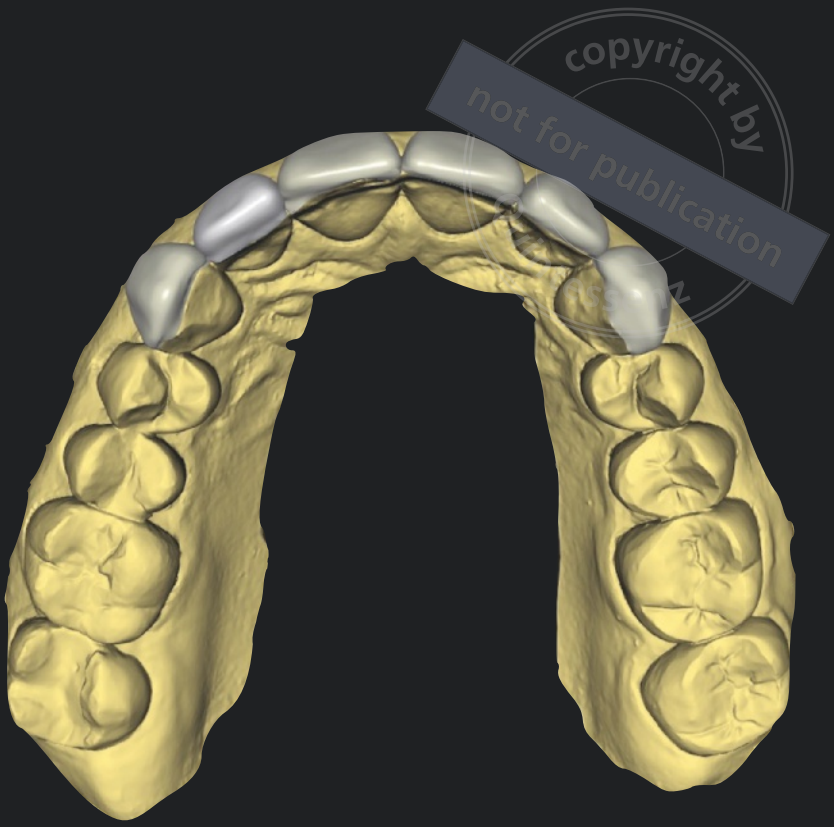
GINGIVAL LEVELS
SYMMETRY



Detailed **analyses** and **diagostics** are **essential** for treatment **planning** and **success** with **laminate veneers**

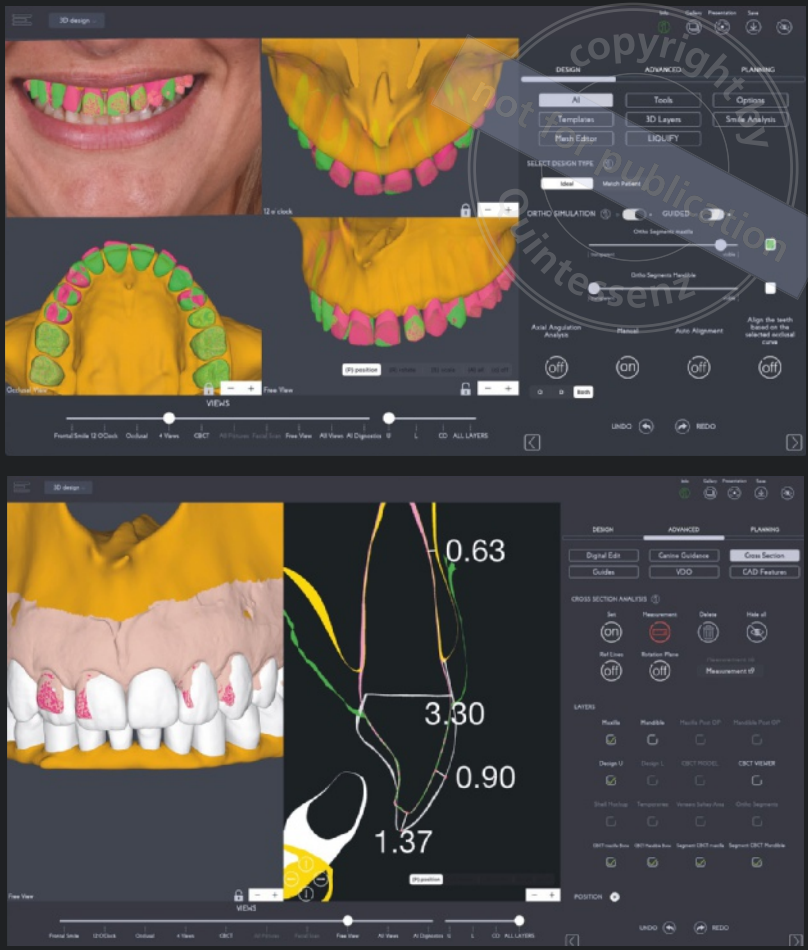
The patient may require treatment **before veneer restorations** such as **orthodontics**, tooth **whitening**, periodontal **surgery**, and an increase of the vertical dimension of **occlusion**

After thorough clinical and radiographic evaluations, preliminary impressions and fabrication of a digital or analog wax-up are indispensable



The wax-up determines the functional and esthetic tooth design and material selection for the definitive restorations as well as the amount of necessary tooth preparation

Digital Smile Design software, powered by artificial intelligence, facilitates precise esthetic and functional analyses and planning



Possible orthodontic treatment and required restoration dimensions can be precisely calculated and determined

The wax-up, analog or digital, must be tried in with a mock-up, and all esthetic and functional parameters verified in the mouth before proceeding with treatment

The optimized wax-up serves as a preparation guide and blueprint for the definitive restorations

For subtractive cases that require substantial changes, an additive "motivational" mock-up may be made to give the patient "an idea"

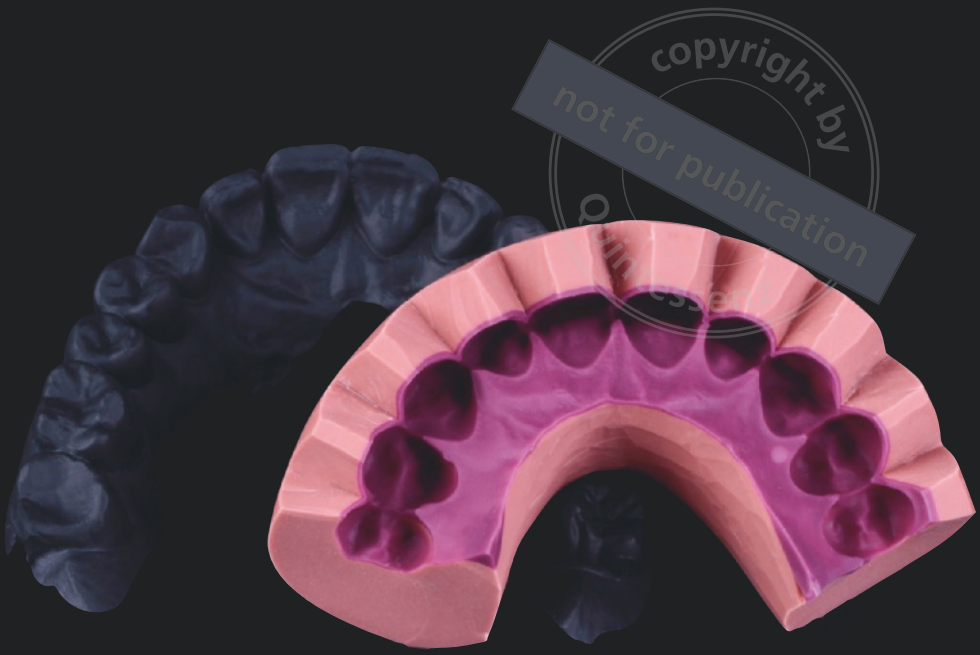
MOCK-UP TYPES

Indirect: handmade, milled or 3D-printed in the laboratory

Direct: injection technique or applied directly on the teeth with a polyvinyl siloxane (PVS) index or clear retainer

Materials: acrylics, BisGMA, (flowable) resin-based composites

Select the type of mock-up based on the **duration of the trial phase** (for one appointment or a longer time?)



DIRECT MOCK-UP with INDEX

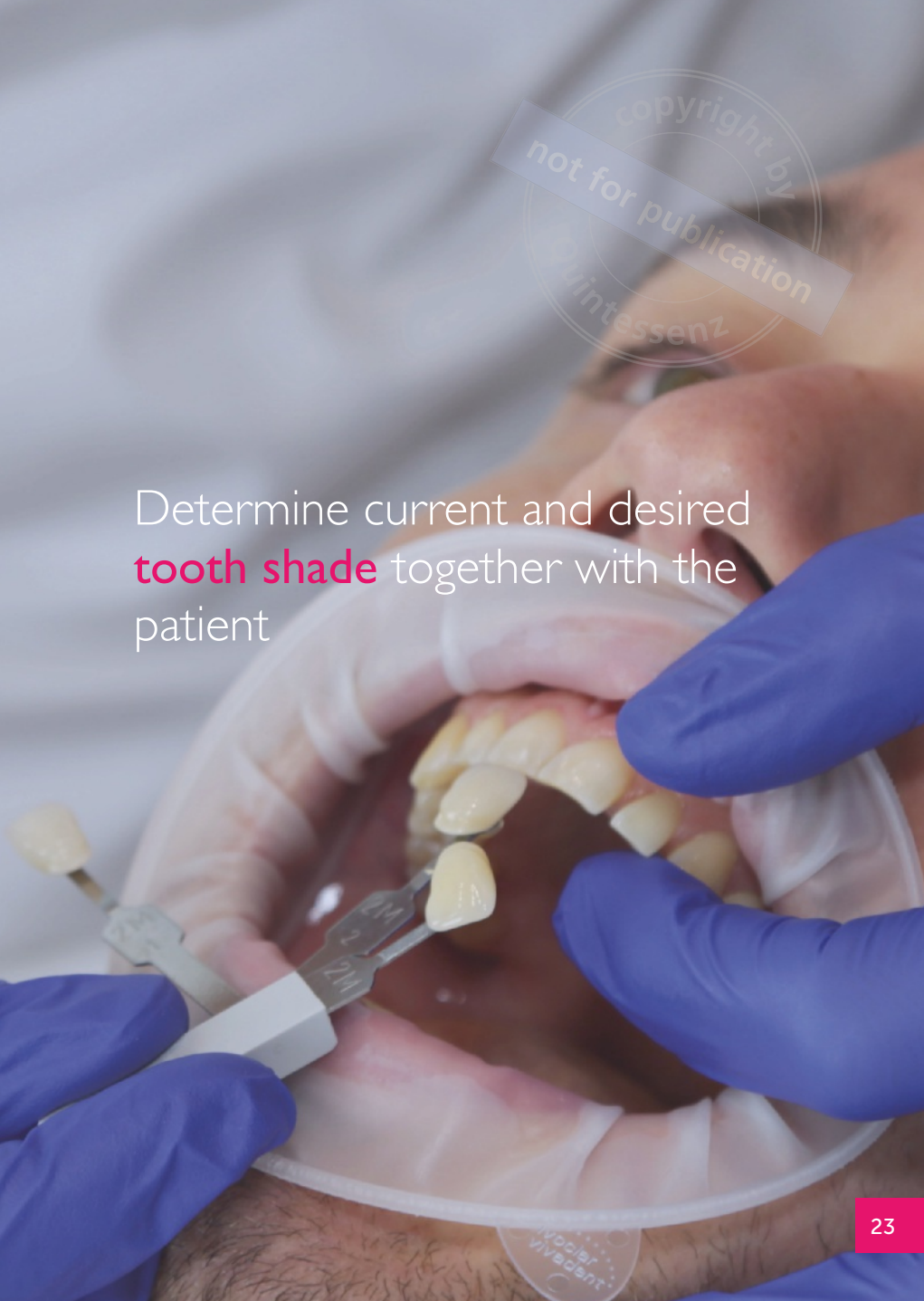
Make a **stone cast** or **3D-printed model** from the wax-up and a **PVS index**

Cut the index along the **gingival margins** for easy **removal** of excess material after intraoral placement

Fill the PVS index with a material of your choice (acrylic, BisGMA, composite) and insert it over the teeth to make an intraoral mock-up


copyright by
not for publication
tessenz
Verify all esthetic and functional
parameters with a mock-up

Verify esthetics and function



This is critically important since **preparation depth** and **ceramic material selection** are determined by the difference between the current and target **tooth shade**

Tooth whitening may be indicated before starting treatment

DIAGNOSTICS AND PLANNING

CHEAT SHEET

1. Clinical and radiographic evaluation and diagnostics
2. Esthetic and functional analyses
3. Preliminary intraoral scans or conventional impressions
4. Digital Smile Design or analog wax-up
5. Try-in of the digital or analog wax-up with the mock-up
   Verify esthetics and function
6. Determine current and desired tooth shade