

DENTAL CLINIC DESIGN

口腔诊所设计

张建华 王贺龙 / 编 常文心 殷倩 / 翻译

Edited by Howard Zhang & WANG Helong

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CONTENTS

目录

EDITOR'S WORDS 008 编者的话

CHAPTER ONE – REFERENCE READING AND DESIGN GUIDELINE

第一章 参考信息和设计指南

The Dentistry	012	牙科 / 牙医学
History of Dentistry	012	牙科 / 牙医学历史
Overview of Dentistry	013	牙科医学概观
Private Dental Clinic in China	015	中国民营口腔诊所
Dental Clinic Design Guideline	015	牙科诊所 / 门诊设计指导
Planning	015	规划
Component of the Unit	016	诊所 / 门诊的构成
Schedule of Accommodation	016	设施明细表
Functional Relationship Diagram	016	功能区关系图
Common Elements for Outpatient Facilities (part)	016	门诊 / 诊所设施设计的一般要素 (节选)
General	016	概要
Functional Programme	020	功能性规划
Site	020	场地
Diagnostic and Treatment Location	020	诊断与治疗区域

Patient Support Services	026	病人辅助服务
General Support Services and Facilities	027	通用辅助服务和设施
Public and Administrative Areas	031	公用区域和管理区域
Design and Construction Requirements	035	设计和建造要求
Design Detail Consideration	042	设计细节考量
Lighting	042	照明
Privacy	043	隐私性
Acoustics	043	声学
Floor Finishes	043	地面装饰
Door	047	门
Design Detail of Waiting Area	047	等候区的细节设计
Safety and Security	048	安全与安保
Infection Control – Dental Infection Control Guidelines	048	细菌感染 / 传染控制
(Part for Interior Design)		(室内设计部分)
Infection Control of Surfaces and Finishes	048	表面和装饰面的传染控制
Purchase of New Equipment	050	新设备的购买
Surgery	050	手术室
Decontamination	053	净化

CONTENTS

目录

CHAPTER TWO – AESTHETIC DESIGN OF DENTAL CLINIC INTERIOR

第二章 口腔诊所室内美学设计

Zahngesundheitszentrum Rauschenbach	058	劳申巴奇牙科保健中心
Dental Office in Spain	064	西班牙牙科诊所
Liquid Walls	072	流体墙
Smile Designer Dental Office	078	斯迈尔设计牙科诊所
Implantlogica Dental Office	084	牙科种植诊所
Brooks Dental Studio	090	布鲁克斯牙科诊所
Praxis für Kinderzahnheilkunde "Putzmunter"	096	普兹蒙特儿童牙科诊所
M2 Pediatric Dentistry	102	M2 儿童牙医诊所
Weissraum Dental Surgery	106	白屋子牙科诊所
Washington Square Park Dental	112	华盛顿广场公园牙科诊所
Be Clinique	120	Be 诊所
Bloo Dental	126	布鲁牙科诊所
Obeid Dental	132	奥贝德牙科诊所



Brauner Wegner Priehn Centre for Dentistry	138	布朗纳·魏格纳·普利恩牙科中心
Brighton Implant Clinic	144	布莱顿牙科诊所
O.D.C. (Okamoto Dental Clinic)	152	冈本牙科诊所
CONTRAST, Dental Practice	158	对比牙科诊所
Dental Clinic Vodnany	162	沃德尼亚尼牙科诊所
Clínica Prof. Luis Jardim	168	路易·加蒂姆诊所
Dental Clinic in Seville	176	塞维利亚牙科诊所
Hikiji-Dental Clinic	182	引地齿科医院
Dental Clinic KU64	188	KU64 牙科诊所
Koishi Dental Clinic	196	小石牙科诊所
Dr. Bordes Dental Clinic	200	博尔德医生牙科诊所
Brånemark Osseointegration Centre	210	上海百年茂口腔门诊部
Kaiyi Dental Clinic	218	凯怡牙科诊所
Proshine Dental Clinic	226	宝祥口腔门诊部
Xu Dental	234	胥口腔诊所

206 INDEX 238 索引



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CONTENTS

目录

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Site	020	场地
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General Support Services and Facilities	027	通用辅助服务和设施
Public and Administrative Areas	031	公用区域和管理区域
Design and Construction Requirements	035	设计和建造要求
Design Detail Consideration	042	设计细节考量
Lighting	042	照明
Privacy	043	隐私性
Acoustics	043	声学
Floor Finishes	043	地面装饰
Door	047	门
Design Detail of Waiting Area	047	等候区的细节设计
Safety and Security	048	安全与安保
Infection Control – Dental Infection Control Guidelines	048	细菌感染 / 传染控制
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Decontamination	053	净化

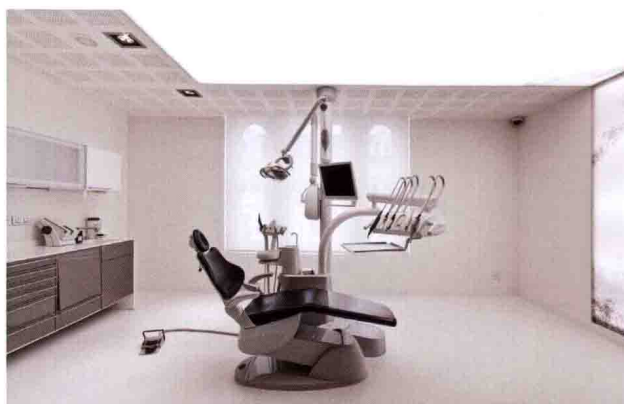
CONTENTS

目录

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第二章 口腔诊所室内美学设计

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Dental Office in Spain	064	西班牙牙科诊所
Liquid Walls	072	流体墙
Smile Designer Dental Office	078	斯迈尔设计牙科诊所
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Bloo Dental	126	布鲁牙科诊所
Obeid Dental	132	奥贝德牙科诊所



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CONTRAST, Dental Practice	158	对比牙科诊所
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Brånemark Osseointegration Centre	210	上海百年茂口腔门诊部
Kaiyi Dental Clinic	218	凯怡牙科诊所
Proshine Dental Clinic	226	宝祥口腔门诊部
Xu Dental	234	胥口腔诊所

206 INDEX 238 索引



The dentistry is important in our life. To see a dentist regularly to have necessary dental care will bring us high-quality and more joyful life, however, most of us, even those brave guys would fear to sit on the dental chair, wait for a “driller” to drill on teeth, while listening harsh noise of running machine. Therefore, for a patient, a comfortable dental clinic is as important as a good dentist.

A good dentist knows how to protect patient, and be good at establish good relationship with him, helping to get rid of fear or nervous before treatment. The patient will not trust a dentist, who works in a space with worn equipments, dim light, poor decoration, dirty floor, even though the dentist is good. Because these will remind the patient that the dentist has low income due to low professional level, or might pay no attention to hygiene.

牙医学的重要性不言而喻。对牙齿进行检查、治疗、护理能提升我们的生活乐趣。但是大多数人，即使是我们周围最勇敢的人有时也会害怕坐在治疗椅上，听着刺耳的声音，让“钻头”在自己的牙齿上打洞。因此，对病人来讲，一个让人放松的牙科诊室和一个好牙医一样重要。

好牙医懂得保护病人的尊严，并且在治疗前善于安抚病人，与病人建立良好的互动。但是即使再好的牙医，如果身处一个设备陈旧、灯光昏暗、装饰过时、有着污迹斑斑的墙壁和地板的诊疗环境中，也不会得到病人对医生的信任，因为他/她会认为这个医生可能医术不高导致收入很低，或者是一个不讲卫生、不思进取的人。牙



The interior design of the dental clinic is the key element for the patient to evaluate a dentist's professional level. Before talking with the dentist or other staff, all first-hand visual information that the patient get after entering into the dental office, that is the First Image we often say, will make the patient have the primary evaluation on the dental clinic. Then, what is the really comfortable diagnostic and treatment environment?

During the design stage, the interior designer should consider the following elements on the stand of the patient:

1. To build up the entire atmosphere, need to consider about entire interior lighting and detail lighting, temperature, colour, and quiet or not. In the past, the dental clinic only have white wall, treatment machine, and cold metal tools, all of these would bring more anxiety and fear to the patient.
2. To protect the patient's privacy: a private, good sound absorption treatment room will help the patient to talk with the dentist, and receive treatment. Therefore, a private treatment zone with suitable partition is good choice.
3. Detail of the functional zone: in the dental office, a patient's journey starts from reception, then the waiting area, and treatment room. Although no patient is willing to stay in a clinic for a long time, but detail design will help the patient to reduce anxiety feeling in a short time, and let him/her feel easy. For instance, provide cloak space in the region with cold winter; provide comfortable chairs in the waiting area; pay attention to the distance between chairs, that is a way of protecting patient's privacy; provide coffee table book or multimedia instruments, such as game machine, CD player, internet service. These details in the area may help the patient to spend their time, and will not be dissatisfied for the boring waiting time. In the treatment room, due to the patient usually lie down on the chair, the designer can add some special patterns or unique lamp on the ceiling to detract the patient's attention to pain and fear, reduce their anxiety feeling.

From the perspective of the dentist and professional staff, the designer should consider about the following elements:

1. Ergonomics (human engineering): the dentist often use treatment machine and keep a similar pose for a long time, so suitable workstation complying with ergonomic dimensions will help to improve doctor's working efficiency and reduce tiredness and arthrosis pain, such as the neck pain.
2. Provide enough space for those movable equipments, such as the maximum move dimension of dental chair arm.
3. To select durable, fire-protection, easy-cleaning/sterilizing materials.
4. As one of health care environment, dental clinic must pay great attention to infection control. The interior designer should have fully consideration on it during the design stage, but not only focusing on aesthetics.

Dental clinics/offices are the most-visited health care facility in our daily life. The design involves many aspects, and I hope this book will provide some reference to the designers and dentists who plan to start independent practice.

科诊所的内部设计对病人评估牙医的水平以及减轻病人的焦虑非常重要。病人与医务人员交流之前，在踏进诊所后所能获得的视觉信息，也就是第一印象，使病人对接下来可能经历的治疗经历、医务人员的水平有了初步的评估。那么，什么样的诊疗环境才是舒服的呢？

设计师在进行牙科诊所设计的时候应该从病患的角度出发需要考虑以下一些因素：

1. 整体氛围的营造：须预先考虑室内的整体和局部的光线、温度、色彩以及是否足够安静。过去的牙科诊所的视觉观感通常是白色的墙壁、治疗仪，还有散发冰冷感的金属治疗工具，这些会从心理上增加病人的焦虑感。
2. 病人的隐私保护：一个相对私密、具有良好隔音效果的诊室能令病人安心地与医生交流、接受治疗，因此，独立诊室或能遮挡外来视线的隔断设计是不错的选择。
3. 功能区的设计细节：牙科诊所中病人需要进入的区域依次是接待处、候诊室/区、诊室。虽然病人都不希望在某个医疗环境中停留过长时间，但细节的设计能帮助病人尽快缓解焦虑感，体会到受重视的、安心的感觉。比如，在冬季寒冷地区，在诊所的入口接待、候诊处增加衣帽存放处，便于病人脱下臃肿的大衣；在候诊区准备舒适的座椅，座位之间的距离设计合理，防止陌生人因坐得太近产生的不安感。除了可以放置读物外，候诊区还可设置多媒体设施，如游戏机、CD播放机、电脑等，即使预约病人多，等候时间长，病人也不会因无聊而不满；诊室中，鉴于牙科病人接受治疗时需仰面躺在治疗椅上，可在诊室天花板和墙壁上增加令人轻松的装饰图案、造型灯具等，分散病人注意力、缓解焦虑感。

从医务人员角度出发，设计师还应该考虑到：

1. 人类工效学：针对牙科诊疗中所涉及到的医用仪器操作和牙医在工作时惯用的身体姿态，人性化且合理地设计工作台，从而提升医务人员的工作效率，减少身体疲劳和关节疼痛，比如颈椎痛等。
2. 各种治疗器械的操作、延伸尺寸，比如旋转长臂的前、后、上、下所延展的空间。
3. 装饰设计材料的耐用性、防火性以及它们是否更加易于清洁和消毒。
4. 牙科诊所作为医疗环境的一种，必须注重细菌传染的控制，设计师在最初的构思阶段也应当进行充分地考虑、设计与规划，而不是一味地注重美感。

作为与人们日常生活关联最多的医疗机构，牙科诊所/门诊的设计涉及到多个领域，希望这本《牙科诊所设计》能为设计师和即将独立执业的牙医提供一些参考。

Reference Reading and Design Guideline 参考信息和设计指南

From the first named “dentist” in ancient Egypt, dental healthcare facility has developed thousands years. Through continuous practising and accumulating, the relevant professional in USA, UK and Australia summarise many design recommendations and guidelines, which are referenced by designers for creating more healthy and comfortable dental healthcare facility.

从数千年前古埃及的第一位“牙科医生”开始，口腔医疗机构也经历了漫长的发展历程。美国、英国、澳大利亚等国家的相关专业人士经过不断地探索实践与积累，总结出了牙科 / 口腔医疗设施的设计规范，为设计师创造更健康、更舒适的牙科诊疗环境提供了广泛的建议和指导。

1. THE DENTISTRY [1]

1.1 History of Dentistry

The Indus Valley Civilisation has yielded evidence of dentistry being practiced as far back as 7000 BC. This earliest form of dentistry involved curing tooth related disorders with bow drills operated, perhaps, by skilled bead craftsmen. The reconstruction of this ancient form of dentistry showed that the methods used were reliable and effective.

A Sumerian text from 5000 BC describes a “tooth worm” as the cause of dental caries. Evidence of this belief has also been found in ancient India, Egypt, Japan, and China. The legend of the worm is also found in the writings of Homer, and as late as the 14th century AD the surgeon Guy de Chauliac still promoted the belief that worms cause tooth decay.

The Edwin Smith Papyrus, written in the 17th century BC but which may reflect previous manuscripts from as early as 3000 BC, includes the treatment of several dental ailments. In the 18th century BC, the Code of Hammurabi referenced dental extraction twice as it related to punishment. Examination of the remains of some ancient Egyptians and Greco-Romans reveals early attempts at dental prosthetics and surgery.

Ancient Greek scholars Hippocrates and Aristotle wrote about dentistry, including the eruption pattern of teeth, treating decayed teeth and gum disease, extracting teeth with forceps, and using wires to stabilise loose teeth and fractured jaws. Some say the first use of

1. 牙科 / 牙医学 [1]

1.1 牙科 / 牙医学

印度河流域文明已有证据显示，早在公元前 7000 年，牙科医学已经出现在人类的生活中。最早的牙科治疗形式包括由熟练的钻珠工匠用弓钻对参差不齐的牙齿进行修复。对牙科医学这种古老的形式进行重塑并且改造来证明这些方法是可靠而且是有效的。



Figure 1. Around 3,000 BC- Hesi-Re, an Egyptian scribe, is the first recorded “dentist” in history
图 1：赫塞-雷，约公元前 3000 年古埃及，目前所知最早的牙医。