

Be a filter, not a sponge.

— *The Perks of Being a Wallflower*

During the ongoing global pandemic, Dr. Chris Chang has had the opportunity to stay in Taiwan and complete his ideal home for his future retirement. Attempting not only to create a haven for his family, but also to accommodate Taiwanese wildlife, he turned to the US National Wildlife Federation for their guidance in creating a wildlife habitat. In order to be recognized as a Certified Wildlife Habitat, a property has to be able to sustainably provide essential elements such as food, water, cover, and places to raise young. Among these essentials, water is of the greatest importance to life - not only how it maintains life, but also in the creation thereof.

As an artist, Dr. Chris has always been fascinated by the interplay of the gleams and shadows which are constantly reflected on the surface of moving water. Therefore, it came as no surprise that a pond would have to be integrated as a main feature of his garden.

The eco-pond has been designed with a specific filtration system to ensure that the water is constantly flowing and that unwanted debris can be easily removed. The filtration system is four-fold, including a skimmer, a bio-fall filter, Aqua Blox under gravel, and water plants. The skimmer has to be installed at a low point of the pond, with an opening at water level, allowing water to naturally flow into it. As the water passes through the skimmer, larger objects floating in the pond, such as leaves and twigs, can be trapped and collected for easy disposal. The



Fig. 1: Camouflaged by a faux-stone covering, the skimmer performs its duties unnoticed. Have you spotted it yet? Bottom left corner, under the potted plant!

water is then pumped from the skimmer to the bottom tank of a bio-fall filter, which has been installed at the most elevated point of the pond. In addition to filtering smaller debris from the water, the bio-fall filter also serves as a bed for essential life-generating bacteria to flourish. As the water rises in the bio-fall filter, it is cleansed and loaded with bacteria before it emerges in the form of a water spring, following the downwardly-arranged rocks, and finally re-entering the pond in the form of a cascade. For the untrained eye, a cascade may only add visual and auditory esthetics to the pond. However, it is of major importance for oxygenating the water, allowing aquatic plants and animals to thrive.

The third part of the filtration mechanism is at the bottom of the pond. Strong skeleton boxes called Aqua Blox are paved at the base of the pond to create a void under a layer of gravel. With natural circulation, water is once again filtered as it passes through the tiny gaps between the stones and sand grains. Last but not least, water plants play an indispensable part in an eco-pond, especially one that has been created to accommodate aquatic animals. Animals produce nitrogenous wastes, such as ammonia, which not only cause odour and contamination but can also be toxic. Water plants help to absorb and remove these substances, keeping the water fresh, while simultaneously benefiting from them.

Dr. Chris always encourages others to be curious and observant, and his school of thought behind these two qualities is very much in line with a filtration system: curiosity opens doors for new possibilities, but observation is required to help



Fig. 2: A blend of beauty and practicality: the cascade oxygenates the water, allowing plant life to thrive.

us stay on the right track! The movie line "Try to be a filter, not a sponge" is a perfect reminder. Do not absorb everything like a sponge; instead, take in only what is important and allow those things that might distract you to flow on their natural path.

Let's be filters!

Desk editor of JDO & a wildlife enthusiast*

Annie Chen

* Title bestowed by Dr. Chris Chang
Special thanks to Mr. Paul Head for refining this article.

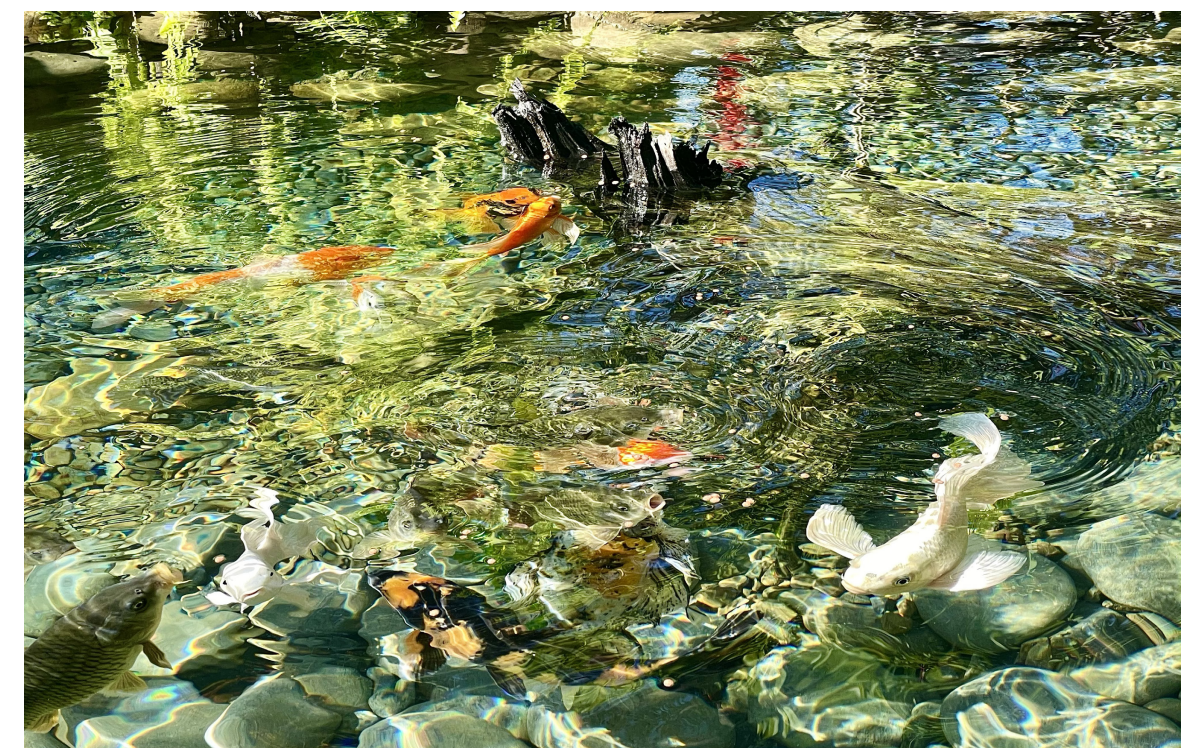


Fig. 3: Koi (Japanese Carp) ripple the surface, creating an ever-changing feeling in the pond.

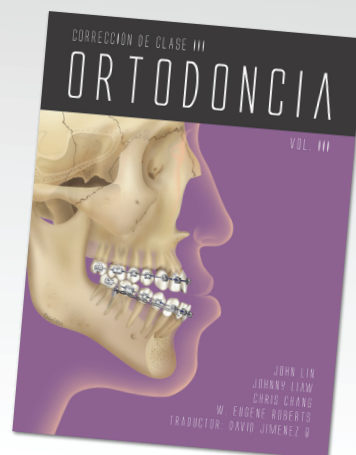
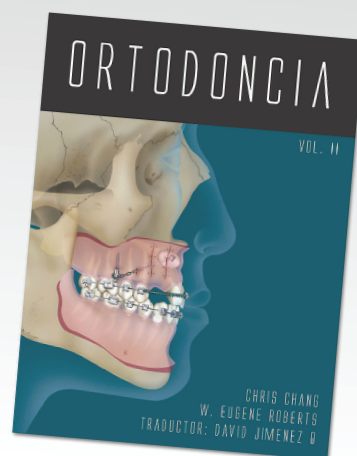
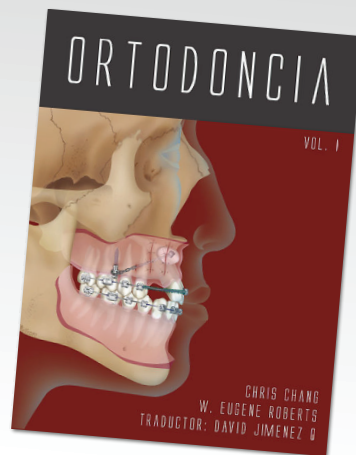


Fig. 4: Aquatic plants and gravel (nature's cleansing mechanism), in conjunction with a man-made system, create a robust filtration system to keep the water clean and fresh.

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* TADs made of Ti alloy have a lower failure rate compared to SS when placed in thin cortical bone. These results are consistent with a biocompatibility-related tendency for less bone resorption at the bone screw interface. Reference: Failure Rates for SS and Ti-Alloy Incisal Anchorage Screws: Single-Center, Double Blind, Randomized Clinical Trial (J Digital Orthod 2018;52:70-79)
** The overall success rate of 93.7% indicates that both SS and TiA are clinically acceptable for IZC BSs. Reference: Failure rates for stainless steel versus titanium alloy infrazygomatic crest bone screws: A single-center, randomized double-blind clinical trial (Angle Orthod 2019;89(1):40-46)

2021-2022 第十三年度 貝多芬 矯正精修班

時間：週二上午 09:00-12:00

地點：金牛頓教育中心（新竹市建中一路 25 號 2 樓）



上課日期：

2021 6/8、7/13、8/24、9/14、10/19、11/9、12/14

2022 1/11、2/15、3/15、4/12

- ▶ 09:00 ~ 10:00 精選文獻分析
- ▶ 10:00 ~ 10:30 精緻完工案例
- ▶ 10:50 ~ 12:00 臨床技巧及常犯錯誤分享

全新的第十三年度 2021-22 貝多芬精修班，是由國際知名講師張慧男醫師主持，並偕同貝多芬牙醫團隊住院醫師群共同主講。

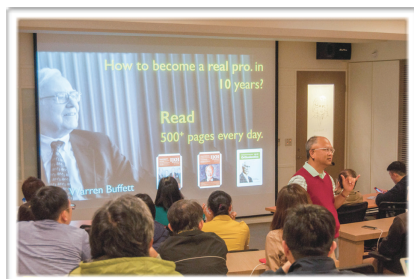
每月一次的課程之中，包含了：

1. 精選矯正權威期刊 AJODO 的文章做文獻分析與評讀。
2. 精緻完工 ABO 案例報告，其中因應數位矯正的世界趨勢，Insignia 與 Invisalign 病例為課程探討的主要內容之一。
3. 分享臨床上常犯的錯誤以及解決方法。

2021-22 貝多芬精修班內容豐富精彩，讓您經由每個月一次的課程，在面對各式的臨床案例時，更能游刃有餘、得心應手。

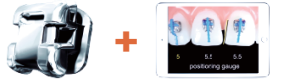
學習目的：

研讀最新趨勢文章可以窺知世界文獻公認的治療方式，而藉由評論文章的優缺點不僅能夠訓練判斷與思考能力，更可以清楚比較作法上的不同，達到完整理解治療方向、內容與穩定性的目標。



報名專線：03-5735676 #201 蔡佳汶

2021 一年一度 預報享優惠價 Damon Master Program



全新改版的 2021 貝多芬高效 Damon 矯正大師系列課程，是由國際知名講師張慧男醫師親自規劃及授課，課程特色強調由臨床病例帶動診斷、分析、治療計畫擬定與執行技巧，本年度亦特別加入最新的數位矯正與隱形牙套的內容，並邀請了貝多芬牙科集團各院院長演講特別矯正專題。

此外，透過數位影片反覆觀看，結合矯正與電腦教學，課堂助教協助操作，以及診間臨床見習，讓學員在短時間內能快速上手，感染「熱愛矯正學，熱愛學矯正」的熱情。

名額有限，一年僅有一次機會在台完整體驗 Damon 矯正大師課程，錯過只能等明年囉！

Module 1 - 4/22 (A班) | 5/20 (B班*)

1. Selecting your ideal first case
2. Bonding position
3. Bonding + BT + Ceph tracing
4. TADs + space closing + hook + spring
5. Finishing bending & fixed retainer

Practice: Clinical photography

Module 2 - 5/13 (A班) | 6/3 (B班)

1. Four stages of efficient orthodontic treatment
2. Simple and effective anchorage system
3. Extraction vs. Non-extraction analysis

Practice: Patient photo management

Module 3 - 5/27 (A班) | 6/24 (B班)

1. Soft & hard tissue diagnostic analysis
2. Big overjet correction
3. Damon diagnosis & fine-tuning

Practice: Ceph tracing

Module 4 - 6/17 (A班) | 7/29 (B班)

1. Excellent finishing
2. Retention & relapse

Practice: Ceph superimposition & measurement

Module 5 - 7/8 (A班) | 8/12 (B班)

1. Simplify your system
2. Extraction vs. non-extraction

Practice: Case report demo

▲ Computer training (Mac): 1:30-2:30 pm

* B班為特別加開班

時間：週四全天 (9 am - 5 pm)

地點：金牛頓藝術科技（新竹市建中一路 25 號 2 樓）

費用含課程視訊、iPad、課程電子書與材料。

報名專線 湧傑 Yong Chieh

北區 楊文君

02-27788315 #122

中區 張馨云

04-23058915

南區 蔡淑玲

07-2260030

Module 6 - 8/5 (A班) | 9/30 (B班)

1. Class III correction
2. Class II correction

Topic: Early orthodontic treatment (曾淑萍醫師)

Module 7 - 9/9 (A班) | 10/14 (B班)

1. Upper impaction
2. Lower impaction
3. Gummy smile correction

Topic: Modified VISTA (蘇瑩瑩醫師)

Module 8 - 9/16 (A班) | 11/4 (B班)

1. ABO DI, CRE workshop
2. Open bite

Topic: Modified 2X4 appliance in ortho treatment (徐玉玲醫師)

Module 9 - 10/21 (A班) | 11/25 (B班)

1. Asymmetry
2. Implant-ortho combined treatment
3. Interdisciplinary treatment-adult complex cases

Topic: Interdisciplinary approach (邱上珍醫師)

Module 10 - 11/11 (A班) | 12/9 (B班)

1. Minor surgeries in orthodontics
2. Digital orthodontics

Topic: Ortho-viewed interdisciplinary treatment (徐重興醫師)

Module 11 - 12/23 (A班) | 12/30 (B班)

1. Aligner & TADs
2. Keys to aligner learning

Topic: Pre-aligner treatment (林詩詠醫師)

▲ Special lecture: 1:30-2:30 pm



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