

# Prof. Jiawei Zheng: staying diligent and committed to your first ambitions

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“I’m not gold, but I can be an industrious gold miner through hard work.”

During his 32-year medical career, he has been assiduous and dedicated to clinical practice and research into oral and maxillofacial surgery. He has written numerous academic papers which reveal the mysteries of the unknown.

In this ever-changing society, he has stuck to his foundational goals. As a scholar, he is practical and rigorous; as a teacher, he strives to be a good model; as a doctor, he treats patients with extraordinary skills and extreme kindness.

He is Prof. Jiawei Zheng, Deputy Director of Shanghai Jiao Tong University College of Stomatology. As a mentor of doctoral students, he is a senior doctor of oral and maxillofacial surgery at Shanghai Ninth People’s Hospital, Shanghai Jiao Tong University School of Medicine. Prof. Zheng is also a prominent and pioneering figure in the field of hemangioma and vascular malformation.

He spearheaded the compilation of a series of diagnosis and treatment guidelines for head & neck hemangioma and vascular malformations, and created the standard procedures for treating complicated diseases.

His life objective is to be a noble person, a pure person, a person of moral integrity, a person with good taste, and a person who is a help to others.

## Expert’s introduction

Jiawei Zheng, MD (*Figure 1*), was born in Zibo, Shandong Province, in 1964. He finished his undergraduate program in the Department of Stomatology of the former Shandong Medical College. Currently he is a professor and doctoral tutor in Shanghai Jiao Tong University College of Stomatology. He is also a member of the International Society for Vascular Abnormalities (ISSVA), vice chairman of the Stomatology Education Committee of the Chinese Stomatological Association, member of the Standing Committee of the Oral and Maxillofacial Surgery Committee, and the deputy director of the Vascular



**Figure 1** Prof. Jiawei Zheng.

Diseases Group under this organization. He serves as the editor-in-chief of *Frontiers of Oral and Maxillofacial Medicine* (FOMM), editor-in-chief of *China Journal of Oral and Maxillofacial Surgery*, executive deputy editor-in-chief of *Shanghai Journal of Stomatology*, is a member of the editorial board of the National Textbook *Oral and Maxillofacial Surgery*, and is a member of the editorial boards of several key journals including *Chinese Medical Journal* (CMJ) (SCI included), *Journal of Oral and Maxillofacial Surgery* (JOMS) (SCI included), *Head and Neck Oncology* (HNO) (SCI included), and the *Chinese Journal of Medical Education Research*. He has undertaken 6 research projects supported by the National Natural Science Foundation of China. He was the editor of 4 monographs (including 1 in English) and translator-in-chief of 2 translated books (including the classic, *Mulliken & Young’s Vascular Anomalies: Hemangiomas and Malformations*). He was also the deputy editor-in-chief of one monograph and the contributor of 23 books (including 2 in English). He has published 332 articles, including 89 in SCI journals and 40 on medical education (6 in SCI journals). He participated in the development of “Standards of Stomatology Education for Undergraduate



**Figure 2** Jiawei Zheng (second right) is performing a surgery.

Students in China”, “Dental Internship Standards”, “Standards of Stomatology Teaching and Education for Junior College Students in China” and presided over the development of seven guidelines/expert consensuses for the diagnosis and treatment of head and neck hemangioma and vascular malformation, and one guideline for the treatment of oral and maxillofacial malignancies, five of which have been widely recognized by international peers after being published in international journals. He has been awarded the “Good Doctor of the Year” by the Good Doctors website for five consecutive years from 2014 to 2018. He has accumulated substantial experience in the treatment of complex hemangiomas, venous malformations, lymphatic malformations, and mixed malformations. As the principle investigator, he has won two National Science and Technology Progress awards (second grade) and one National Teaching Achievement award (second grade). He has made outstanding contributions in the classification of hemangioma and vascular malformations, innovative treatment methods, development of guidelines, and basic research. Currently, by focusing on patent transformation and results development, he hopes to benefit more patients. He teaches students in the five-year, seven-year, and eight-year undergraduate programs and has trained more than ten master and doctor candidates and two postdocs.

### “Dig a well”

“Doctor, is it really impossible to keep my face intact?”

It was Thursday morning in June, in a room on the fourth floor of Shanghai Ninth Hospital’s clinic building.

A 30-year-old patient asked the same question three

times. She was diagnosed with micro-venous malformations (nevus flammeus). She appeared to be reluctant to accept any bad news, and was eager for a positive answer. The truth was disappointing, however.

The patient’s left eye was surrounded by brown scars. She said she had been troubled by the illness in the childhood, and there was no effective therapy in the early years. She had been treated with the use of isotope applicator, laser therapy, and radiotherapy, but none had any effect. “Now the disease can be cured.” After so many years of struggle with this ailment, the patient has been calm and relaxed during communication with the doctor, and that was accompanied by both a sense of regret and a glimmer of hope.

“Due to a lack of effective interventions for such a long time, the diseased region has proliferated. The only option is the use of pre-expanded skin flaps.” When he met with patients who should have been curable but were not given timely treatment, Jiawei Zheng sighed at their misfortune.

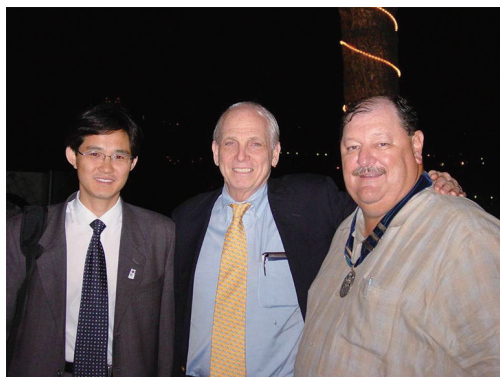
“Spend as little money as possible to seek the best therapeutic effect.” This has been the ultimate objective for Jiawei Zheng during his decades of firm commitment to the fight against hemangioma and vascular malformations. Patients will be direct beneficiaries if the objective is fulfilled. At present, shallow hemangioma can be gradually cured by pasting effective medicines on the diseased regions, and this therapy can prevent the serious adverse reactions caused by hormone therapy. Sclerosing agent injection is the best choice to treat vascular malformations, because it can prevent any scars and functional disorders that might be caused by surgery. Patients’ lives have changed thanks to the efforts of Jiawei Zheng and his team (*Figure 2*).

Hemangioma and vascular malformations are tumors or developmental malformations of the vascular system. Newborn babies are most susceptible to the diseases, and more than 60% of hemangioma and vascular malformations are found on the head or neck. Before the end of 1990s, there had been no effective cure for the disease. Surgery was adopted to remove the tumor in some cases, but doctors could do nothing in many cases. “When I first met patients troubled by hemangioma and vascular malformations, I really had no idea what to do.”

A Wenzhou girl in her twenties came to the hospital and asked for help. She was diagnosed with arteriovenous malformations when she was a child. Surgeries had to be performed to remove her lower jawbones and transplant ilium bones. Unfortunately, the illness recurred on the ilium bones. After these surgeries, the beautiful girl had a



**Figure 3** At the 16th International Workshop on Vascular Anomalies, Jiawei Zheng's lecture was well received, thus establishing his link with the International Society for the Study of Vascular Anomalies (ISSVA). The photo shows Jiawei Zheng (left) meeting with Dr. James Y Suen, Director of the Department of Otorhinolaryngology - Head and Neck Surgery, University of Arkansas for Medical Sciences (UAMS) (Milan, Italy, 2006).



**Figure 4** Jiawei Zheng (left) with Dr. John Mulliken from Boston Children's Hospital and Dr. Wayne Yakes, President of ISSVA (Boston, 2008).

totally deformed face. Jiawei Zheng was saddened by her suffering, and it motivated him to make more intensive explorations. During his doctorate study, Jiawei Zheng was wholeheartedly devoted to the clinical practices and research of hemangioma and vascular malformations. He was the first doctor to treat infantile hemangioma with low-dose propranolol in 2018, and was the first in China to treat the disease with interferon.

Treating hemangioma and vascular malformations requires knowledge across different disciplines, and insufficient understanding of the diseases has led to divided and different opinions about how to treat them. In one



**Figure 5** Jiawei Zheng (right) with Dr. Joyce Bischoff, a famous vascular biologist at Boston Children's Hospital (Nanjing, 2011).

of his articles, he describes the lamentable outcomes that occurred after crude treatment or over-treatment: radionuclide therapy for facial nevus flammeus resulted in skin and jaw necrosis, and pus spurted out from the wound; in a few children, excessive cryotherapy or laser treatment left large scars on the face, causing lifelong anguish; also, excessive sclerotherapy injection resulted in local tissue dysplasia, defect, and deformity.

Based on his own clinical experience and by referring to both domestic and international literature, Jiawei Zheng steered the development of many guidelines for the diagnosis and treatment of head and neck hemangioma and vascular malformations, including the *Guidelines for the Treatment of Oral and Maxillofacial Hemangioma and Vascular Malformations*, *Guidelines for the Treatment of Oral and Maxillofacial Lymphatic Malformations*, *Guidelines for the Treatment of Oral and Maxillofacial Hemangioma*, *Guidelines for the Diagnosis and Treatment of Oral and Maxillofacial Arteriovenous Malformations*, *Guidelines for the Diagnosis and Treatment of Oral and Maxillofacial-Head and Neck Venous Malformations*, and *Guideline of Using Pingyangmycin to Treat Hemangioma and Vascular Malformations*. These documents have standardized the management of hemangioma and vascular malformations and have been widely recognized both at home and abroad (Figures 3-5).

"I'm working on a narrow-ranged specialty. I think as long as you choose the subject, you should make intensive explorations. It's not advisable to go in one direction today and change to another direction tomorrow." In other words, dig a well and go deeper, and this is the case for both clinical practice and scientific research. He has secured funding for



six studies from the National Natural Science Foundation of China, and all studies have centered on hemangioma and vascular malformations.

He believes that precision therapy and etiological treatment will be the future of oral and maxillofacial surgery. Based on the research into pathogenic genes, he agrees that different diseases can be treated with the same approach. The reason for this is that different diseases may be caused by mutations of the same genes, so they can be treated with the same therapy. For instance, some lymphatic malformations and venous malformations share the same signal pathway mutation genes as highly malignant melanoma, so they can be treated with monoclonal antibodies.

Standard therapies for hemangioma and vascular malformations have already been established, but the road ahead remains bumpy. In some complicated cases (e.g., patients with intractable advanced arteriovenous malformations), treatment remains unclear. For some cases with specific mutation genes, targeted medicines have proven difficult to develop. These problems are waiting to be explored and resolved by Jiawei Zheng.

### “Efficient writer”

Jiawei Zheng has an extraordinary gift and natural feeling for the Chinese language. He is an efficient writer of academic translations, scientific papers, and articles about medical science popularization. He has built his literary fame from the hospital's department of oral and maxillofacial surgery.

In the early years after he began to work, he spent the bulk of his spare time translating English academic literature in order to improve his foreign language proficiency. There was no well-established online communication network in the 1980s. After work, he enjoyed a simple life in the library, where he could read English journals and learn about the latest advances in the medical sciences. He often stayed in the library until the 10 p.m. closing time. Journals in the field of oral and maxillofacial surgery, otolaryngology - head and neck surgery, and plastic surgery were Jiawei Zheng's favorites. He translated over 200 articles and published them in *Foreign Medicine - Stomatology* (now the *International Journal of Stomatology*).

There were few medical journals at that time. His translations became an important source for Chinese stomatologists to learn about the latest developments in the world. As a result, Jiawei Zheng became a well-known

figure in the field.

“Everybody thought I must be an old man.” Jiawei Zheng laughed. If a man can publish so many medical essays, he must be an old doctor.

At the age of 30, Zheng Jiawei compiled a book, *Radical Neck Dissection*. “When I was a rotating doctor in the ICU, I had to stand by 24 hours a day in case critically ill patients were admitted.” During his days in the ICU, when all the patients fell asleep, he would read foreign journals and write articles. These articles were finally compiled into a book and used by his peers for clinical reference.

He has so far published four monographs (including one English-language book) as chief editor, one monograph as deputy chief editor, and 23 books (two in English) as a contributor, including popular ones like *Atlas of Oral Anatomy*, *Essentials of Oral and Maxillofacial Surgery*, and *Mulliken & Young's Vascular Anomalies Hemangiomas and Malformations*.

Apparently, not every article can be successfully published. He had translated an entire issue of a journal about salivary gland diseases, but his work was rejected by the publishing house because it was too scholarly. He had made a stack of manuscripts for the translation work, but to medicine's great misfortune, these valuable manuscripts were not preserved. The knowledge, however, has remained in his mind.

This body of work has laid a solid foundation for his future career development.

After eight years of clinical practice in the hospital, Jiawei Zheng decided to leave the hospital in 1996 and take a look at the world outside. Six months after he was promoted to associate professor at the Medical University of Shandong, he decided to pursue a doctoral degree at the Second Medical University of Shanghai (Shanghai Jiao Tong University School of Medicine). His doctorate tutor was Prof. Weiliu Qiu, a member of the Chinese Academy of Engineering and a leading figure of oral medicine in China. Prof. Qiu likes and respects talent. The duos ties had been established before Weiliu Qiu became Jiawei Zheng's tutor. He had already heard of the doctor from Shandong who had published a plethora of academic papers, and cited the doctor as a good example for his students.

“In the final year of undergraduate study, I began to get some preliminary understanding about Prof. Qiu's code of conduct and how he teaches students, and developed a sincere admiration for him.” He has since settled at Shanghai Ninth Hospital and has decided to follow in the footsteps of his tutor to stay devoted to oral and

maxillofacial surgery.

“I was very fortunate to become his student, listen to his instructions, and learn how to be a good man and a good teacher. He remains a guidepost in my life and gives me instructions about where I should go” (Figures 6, 7).

Over the years, Jiawei Zheng has not disappointed Prof. Qiu. He has compiled several treatment guidelines and published a large amount of research papers as lead author. He was honored with the second prize of the National Award for Science and Technology Progress for two clinical studies: “Morphological and functional reconstruction of defects after radical resection of oral and maxillofacial tumors” and “Clinical treatment of oral and maxillofacial hemangioma and vascular malformations”. He also made great contributions to the rising popularity of two journals: *Shanghai Journal of Stomatology* and *China Journal of Oral*



**Figure 6** Jiawei Zheng (right) with his tutor Dr. Weiliu Qiu (Teacher's Day, 2018).

*and Maxillofacial Surgery*. Now, he is the appointed Editor-in-Chief of the *Frontiers of Oral and Maxillofacial Medicine* (FOMM), a new publication of the AME Publishing Company. He will work together with AME to make FOMM a first-rate academic journal with international influence.

He has made a difference with a pen in his hand.

### “Across disciplines”

Oral and maxillofacial surgery is a secondary discipline under stomatology, and it can also be regarded as a branch of orthopedic surgery under clinical medicine. It shares common features with stomatology and clinical medicine.

“In my department, patients are not limited to oral and maxillofacial problems. Knowledge about internal medicine, surgery, pediatrics, and hematology is also essential and required for doctors working at the department of oral and maxillofacial surgery.” Therefore, he has been calling for surgeons to have a solid academic background in clinical medicine.

Jiawei Zheng is deputy director of oral and maxillofacial surgery at the National Medical Examination Center. He strongly advocates that dentists should also take examinations in internal medicine, surgery, obstetrics and gynecology, and pediatrics. He believes clinical knowledge in these fields is indispensable for surgeons to practice and protect patients. For instance, for a patient with arteriovenous malformations or coagulation disorders, tooth movement caused by tooth extraction or orthodontics may cause massive hemorrhage and be fatal. The patient should



**Figure 7** A group photo of key academic members in the Department of Oral and Maxillofacial Surgery at Shanghai Ninth People's Hospital, Shanghai Jiao Tong University School of Medicine [2017].



**Figure 8** The second session of the Oral and Maxillofacial Vascular Diseases Group was established, and Jiawei Zheng (second left) served as the deputy leader (Shanghai, 2008).

undergo a panoramic radiograph to see whether bone and blood functions are normal. The doctor should also confirm whether the patient has heart disease or diabetics, so as to ensure the treatment process is safe.

“Students must pick up more knowledge. They cannot confine themselves, and should learn more about other disciplines.”

Prof. Qiu has been calling for the establishment of a department of oral and maxillofacial surgery, and for the formulation of specific plans on theory learning and clinical training to cultivate oral and maxillofacial surgeons on a large scale and solve clinical problems. Jiawei Zheng completely agrees with this proposal.

Cross-discipline study is not limited to teaching and examination, it is also demonstrated in the publication of *FOMM*. In addition to publishing research papers in the field of oral and maxillofacial surgery, *FOMM* also covers basic and clinical research in such disciplines as plastic surgery, ophthalmology, otolaryngology, and head & neck surgery. These disciplines are inextricably associated with stomatology.

Jiawei Zheng has cited many medical cases that require cooperation of doctors specialized in different disciplines. Cleft lip and palate treatment requires knowledge about orthognathic surgery and plastic surgery; parotid gland surgery is usually performed in the department of otolaryngology and head & neck surgery, but oral and

maxillofacial surgeons should be involved when dissecting facial nerves becomes difficult; maxillary surgery is performed at the department of otolaryngology and head & neck surgery, which requires oral repair after dissection; skull base surgery has to be performed in tandem with neurosurgeons; neurofibroma has to be removed with the help of plastic surgeons. “Development of these highly reputed disciplines in our hospital is based on interdisciplinary cooperation.”

In the diagnosis and treatment of hemangiomas and vascular malformations, Jiawei Zheng is worried that treatment guidelines remain confined to oral and maxillofacial surgery and plastic surgery. The classification of diseases has been updated in the 6<sup>th</sup> edition of the textbook of *Oral and Maxillofacial Surgery*, but other textbooks such as *Surgery* and *Dermatology* have not been updated, and the conventional viewpoints are still adopted. Therefore, he and his colleagues in oral and maxillofacial surgery have been advocating for interdisciplinary integration, hoping that experts from different disciplines will discuss and agree on the treatment guidelines, and provide patients with standardized diagnosis and treatment to reduce complications and medical disputes (*Figure 8*).

### Sticking to original aspirations

Dental clinics can be seen everywhere on the street, and





**Figure 9** Jiawei Zheng (right first) instructs his students to perform an experiment.



**Figure 10** Jiawei Zheng (third from the left) receives flowers from his trainees and students (Teacher's Day, 2018).



**Figure 11** Jiawei Zheng treats a patient.

they offer basic services such as the cleaning, repairing, removing, and bracing of teeth. The term, “oral and maxillofacial surgery”, is largely unknown to most people, and the public understanding of the discipline is very limited.

According to data released by the National Bureau of Statistics, China had 167,227 dental practitioners and

assistant dentists in 2016, and only a small proportion of them were engaged in oral and maxillofacial surgery. The annual conference of specialists in dental implants, orthopedics, and dental prostheses has always gathered 3,000 to 4,000 participants, but it is still rare to see 1,000 specialists attend the annual meeting of oral and maxillofacial surgeons.

Due to the lower wages and higher surgical risk, many oral and maxillofacial surgeons have changed career direction to tooth implantation. However, as long as patients need them, there will be doctors standing firmly on their ground. Jiawei Zheng is one of them.

“You should have a spirit of devotion as oral and maxillofacial surgeons.” Jiawei Zheng understands the implications of this dictum. You have to stay away from fickleness, fame, and fortune, and resist the desire for limelight and wealth.

A teacher is someone with broad and profound knowledge, and a role model of moral integrity. In this impulsive society, he is fully aware that neither doctors nor teachers can be impetuous.

“Shanghai Ninth Hospital is a teaching-oriented hospital, and should focus on talent education, especially undergraduate education. If students do not have a firm foundation, their career development could be hampered; a medical practitioner with a capricious mindset can destroy his or her career with a single mistake.”

As a mentor, he gives students a spacious development platform and strong support. He does not like to gather all his students and listen to their reports about research progress; instead, he wants them to report problems at any time and quickly solve them. He does not reprimand students, and instead sets a good example to motivate them. As a result, he and his students have built profound relations and connections (*Figures 9,10*).

Patients can also expect respect from Jiawei Zheng. If a patient can be cured with cheap medicine, he will not prescribe expensive drugs. He is also happy to work overtime to help outpatient patients who come from faraway places (*Figure 11*).

The website “China Hemangioma” ([www.cnhemangioma.com](http://www.cnhemangioma.com)) organized by Jiawei Zheng and “Good Doctors” ([www.haodf.com](http://www.haodf.com)) are his front-line platforms to spread medical knowledge, make releases about the latest developments, and answer patient questions.

He has been striving to do everything that is helpful to patients. Jiawei Zheng's sincere efforts have improved patients' health, and garnered unanimous plaudits and

heartfelt gratitude from patients. On the website, “Good Doctors”, he has received 250 letters of thanks from patients. He was awarded “Good Doctor of the Year” by the website for five consecutive years from 2014 to 2018. Without any marketing or publicity efforts, his personal page on the website receives more than 6,000 views a day. The patients and their families have left many moving messages:

“I’m very grateful to Prof. Zheng. He did not adopt the traditional therapy, and instead used injections to cure my illness. His therapy involves less pain and no trauma. He is really a great doctor.”

“We are grateful to Prof. Zheng, because he cured my daughter’s hemangioma, and we spent less money and less time. Thank you again!”

“My special thanks go to Prof. Zheng. My baby is too little to seek medical help for hemangioma. We managed to contact him online, and he prescribed some drugs. Less than one week later, we were seeing substantial improvement.”

“We are really thankful to Prof. Zheng. My mother was cured with just an injection. We visited several large hospitals before, but were told that she cannot be cured. Prof. Zheng knows that our life is not easy. Thank you again!”

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There was a child troubled by widespread hemangioma on the parotid gland, lips, and throat. The child was diagnosed as incurable at other hospitals. The family did not give up, and came to ask Jiawei Zheng for help. After combined therapies, the child was eventually cured. To express their gratitude, the patient’s grandfather wrote a two-page letter of thanks. The child is now studying at primary school, and earlier this year he was accompanied by his grandfather to visit the hospital and thank Prof. Zheng for saving his life.

These are the happiest moments for Jiawei Zheng.

## Afterword

Born in a mountainous village in Boshan District, Zibo City, Shandong Province, Jiawei Zheng recalled that he had a hard time at school during his teenage years. His village was 30 kilometers away from school, and there was a steep slope. When the bus arrived at the slope, all the passengers had to get off and push the bus up the slope. On snowy days, road conditions were even more challenging.

In addition to the tough road, there were clothing problems. Clothes were made from rough textiles and were difficult to clean after being soaked in the cold water of winter.

The painstaking experience in the childhood developed

Jiawei Zheng’s independence and gave him the courage to overcome the challenges that lay ahead in his life.

In one blog article, Jiawei Zheng wrote, “I’d like to be a bird, and fly in the sky regardless of the dark sky and bad weather. Flying is my mission, and also my life. I dream that someday I can fly faster and higher!”

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*Ethical Statement:* The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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