ANNUAL SCIENTIFIC SESSION

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Peter E. Dawson, D.D.S.

Dr. Peter Dawson is director of the Dawson Center for Advanced Dental Study, a multidisciplinary center for postgraduate education and clinical research in St. Petersburg, FL. He also is a member of the advisory faculty of the L.D. Pankey Institute. A graduate of Emory University School of Dentistry, Dr. Dawson is a Fellow of the American College of Dentistry and of the International College of Dentistry. He is past president of the American Academy of Restorative Dentistry, the American Academy of Esthetic Dentistry, and the American Equilibration Society.

He has served as a professional lecturer at Georgetown University School of Dentistry and a visiting professor at Emory University School of Postgraduate Dentistry. Among his many awards are The Achievement and Humanitarian Award for service to mankind through excellence in restorative dentistry (New Orleans Dental Conference); the Thomas P. Hinman Distinguished Service Medal; and the Dean's Award for Special Achievement and the Distinguished Alumni Award (Emory University School of Dentistry).

Dr. Dawson is the author of the C.V. Mosby text Evaluation, Diagnosis, and Treatment of Occlusal Problems *(1st and 2nd editions). He lectures nationally and internationally and serves as a consultant to the* International Journal of Periodontics and Restorative Dentistry.

Interview with Dr. Peter Dawson

The goal of this section is to provide insights into the minds of some of dentistry's premier educators. In this issue, Dr. John Weston (JW) interviews Dr. Peter Dawson (PD), not only about different philosophies of occlusion, but also about Dr. Dawson's thoughts on the future of the Academy and esthetic dentistry. It is hoped that this interview will provide a glimpse of what attendees can expect next Spring when Dr. Dawson opens the AACD's 21st Annual Scientific Session in Nashville, TN, with an exciting half-day lecture, "Combining Smile Design with Function...A Concept of Complete Dentistry," on Wednesday, April 20, 2005.

Dr. Weston is an Accredited member of the AACD and is co-chairman of next year's Annual Scientific Session.

JW: Dr. Dawson, you have been providing comprehensive quality dental care to patients for many years, and have been one of the most influential teachers in the history of dentistry. With the trend in dentistry today focusing on esthetics, where do you see the future of our field heading?

PD: There is a tremendous future in esthetic dentistry. Almost everyone appreciates the value of a beautiful smile; and today, more than ever, patients are seeking out dentists who can satisfy that desire. It is important to realize, however, that function, comfort, and stability are also desired, and if the esthetic result doesn't also satisfy those demands, there will be a price to pay.

JW: *Whether we are talking about adhesion, preparation design, or occlusion, what do you feel are the most critical factors affecting the success of cosmetic dentistry, and do you see a need for specific new developments with products or techniques?*

PD: When I look at all the improvements that have been made in materials, adhesives, and technology across the board, it's hard to imagine it can get much better. Today there are no barriers to creating gorgeous, natural-looking restorations. I don't see a need to improve materials as much as I see a need to better understand principles of occlusion and total masticatory system harmony. There is no mystery about how to do exquisitely accurate, highly predictable dentistry. The mystery is why these principles are so routinely ignored.

JW: *Occlusion is obviously an important topic when we talk about comprehensive treatment, but why is it important even for the most basic veneer case?*

PD: Some of the most messed-up mouths I've seen resulted from what dentists perceived as a "basic veneer case." Dentists who do not have a comprehensive understanding of occlusion don't realize how critical the anterior teeth are to occlusal harmony and the stability of the entire dentition. The most minor change in incisal edge position can cause problems in some patients. Even the additional bulk of a too-thick veneer can interfere with the neutral zone and cause the anterior teeth to move into interference with the critical envelope of function. This can result in excessive wear on the lower anteriors and/or hypermobility of the upper anterior teeth.

JW: *The more one learns about occlusion, the more obvious it becomes that there are many differences in philosophies and clinical approaches. What methods and equipment or technologies do you use and why?*

PD: It seems to be popular today to adopt the philosophy that no one approach works for all patients and there is a place for all the different clinical approaches. I think this is a wishy-washy philosophy. What is really needed is an understanding of how the masticatory system works, and what keeps it in harmonious function. That requires a really clear education on the anatomy and physiology of the temporomandibular joints (TMJs), and knowledge of how the TMJs relate to maximum intercuspation of the teeth and how the posterior teeth relate to the anterior guidance and the TMJs. The neuromuscular system relates to all these biologic interrelationships and always tries to regain equilibrium whenever there is disharmony within the total masticatory system. A dentist who doesn't know how the masticatory system works can't know what's wrong when it isn't working properly. If you truly understand the requirements for masticatory system harmony, you can get a predictable treatment result in different ways. But you cannot violate any requirement for occlusal harmony and get the same good result. Some highly touted treatment philosophies violate important principles and can't possibly have the same success rate as those that follow essential rules.

JW: *What are the advantages of assessment and discussion of occlusion with a new patient and at what point should we bring occlusion into our treatment regimen?*

PD: A dentist who really understands occlusion doesn't have any problem talking to patients about it. Patients who come into a dental office specifically for cosmetic dentistry will almost always have an interest in the long term-health of their smile. If their primary interest is their appearance, that is where the smart dentist will start the conversation. But a co-diagnosis of the entire mouth should follow at the same appointment. If there are any problems, the patient should always have the option of knowing what those problems are and the implications of not treating any problem in a timely way. Because all occlusion starts with the TMJs, and because there are critical aspects of anterior guidance that cannot be determined if posterior deflective interferences are present, quality restorative dentistry requires a complete examination and a correctly se-

quenced treatment plan. This is especially important when anterior teeth are to be restored. It is my experience that patients respond very appreciatively to a thorough examination if it is used to help them understand the condition of their mouths in an empathetic, "no-hype" way. Just be honest about what really needs to be done, what could be deferred, and what is optional.

JW: The traditional term "centric relation" (CR) is not very well understood by most clinicians and can even elicit negative feelings with some neuromuscular proponents. Can you explain your definition of CR and techniques you utilize?

PD: It is very sad that so much misinformation about centric relation (CR) has saturated the Internet and certain Web sites. CR is not difficult to understand if one focuses on the anatomy of the joints and the physiologic action of coordinated muscle activity. I've been very clear in my writing and teaching about exactly where CR is (the most superior position against the eminentiae by properly aligned condyle-disk assemblies). I developed the concept of bilateral manipulation as a means of load-testing the joints to verify that they are completely seated. Any tenderness or even tension indicates that the joints are not completely seated or there is a structural disorder within the TMJ capsule. If the inferior lateral pterygoid muscle is not *completely* released, we will know it because it will resist the upward loading and the patient will feel tension. Load-testing is a learnable skill but it does require understanding of what is being tested. At the Dawson Center, we have taught thousands of dentists how to do it perfectly enough to find and verify CR with repeatable pinpoint accuracy. The popularity of flat, anterior deprogramming devices is a good indication of the value of completely seated TMJs. It is also an indication of a general lack of understanding about what these devices actually do. The NTI, the Best-Bite™, the Lucia jig, and the Pankey jig all do exactly the same thing: they separate deflective posterior interferences from contact and allow the condyles to go to CR. When the muscles no longer have to displace the TMJs to achieve maximum intercuspation, the muscles release their incoordinated hyperactivity and the headaches and muscle pain go away. This is the same result we have been achieving for thousands of patients through occlusal equilibration or proper restorative dentistry harmonized to CR. Anterior deprogramming devices are an excellent aid for achieving CR. They are not new and they should not be considered as a "treatment"; rather, they are diagnostic. If they relieve symptoms it simply indicates a need to correct the occlusion so it is in harmony with CR.

JW: We all know there is much science behind the CR approach. Do you believe there is good science behind the neuromuscular approach and can you see a need for an interdisciplinary approach where more than one philosophy might be necessary to restore some patients?

PD: You are right. There is a tremendous body of science to support the concept of CR, but you must separate out the good science from the bad. The problem I have with the so called "neuromuscular" approach is that it is based on bad science. That does not mean that there is anything wrong with using Electromyography (EMG). Much of what we base our concepts of CR on has been proven by meticulous use of EMG research. The same is true with jaw-tracking, sonography, Doppler, and other electronic modalities that *do* have merit if properly interpreted. If you misinterpret these modalities as dictating a down-forward condylar posture at maximum intercuspation (as advocated by the "neuromuscular" proponents), that is bad science…and it is an invitation for overload on posterior teeth as well as incoordinated musculature. If you misinterpret jaw-tracking paths to accept the "neuromuscular" claim that condyles don't rotate, that is provably wrong. If you misinterpret their recordings as the primary reason for dictating an increase in the vertical dimension of occlusion, there is no scientific rationale to support that, and it too often results in unnecessary over-treatment. There are just too many rock-solid, time-tested principles of occlusion that are violated by the "neuromuscular" proponents.

JW: How is facial pain related to occlusion; and do anterior deprogrammers such as the NTI help and how are they best used? What do they do?

PD: The most common form of orofacial pain is without question related to occlusion. It is called "occluso-muscle pain" and it is predictably treated at close to 100% success if there are no ac-

companying intracapsular structural disorders of the TMJs. You can almost immediately relieve pure occluso-muscle pain with *any* anterior deprogrammer, including a cotton roll. But as I said earlier, all you've done is make a diagnosis. If the cause of the pain is "occluso-muscle," mount casts in CR and determine the best treatment option for correcting the occlusion. That can be done reversibly with a full CR splint or directly with occlusal treatment such as equilibration, orthodontics, or restorative therapy.

JW: Is it necessary to alter your choice of restorative materials based on occlusion, or can you develop a stable enough occlusion that any material would work?

PD: If your occlusion is perfected, the choice of restorative materials becomes less important. I see no difference in long-term occlusal stability between gold, ceramic, or enamel. With a perfected anterior guidance and immediate posterior disclusion, there is almost no chance for attritional wear. Of course, immediate posterior disclusion requires maximum intercuspation to occur at CR. Excessive posterior wear is always indicative of interference to CR or/and failure to properly disclude the posterior teeth by a correct anterior guidance.

JW: Can you give us a brief preview of what you plan to share with attendees at the Academy's Annual Scientific Session in Nashville next year?

PD: I'm excited about being with you in Nashville at the Academy's meeting. The AACD's leadership has done a superlative job of elevating cosmetic dentistry into a more complete agenda of what I like to call "complete dentistry." At the meeting I want to expound on that theme and show why function and esthetics work together to produce a far superior and more naturally beautiful smile. I'm passionate about where dentistry should be heading. Dentists who understand can have a wonderful, rewarding life. I love to share how I know it can be accomplished.

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