Greeting from the ASDA executive. IFDAS 2009 is finally behind us (Thank God) and we are still solvent. We are now in 2010 and a new age in dentistry is upon us with the new national dental board due to start on the 1st July. With the new board come new challenges to ASDA and the conduct of sedation. Presently the executive is involved in a vigorous challenge to proposed changes to sedation protocols. Before the board is a proposal to have the 3rd person in the dental surgery for sedation to be a medical doctor, a dentist, or a registered nurse with anesthetic and ICU experience. ASDA is opposed to this move, as it believes that registered nurses with those qualifications are in desperately short supply and would significantly increase patient costs. Furthermore, there is no evidence in practice to support this. In hospitals and other medical facilities, an appropriately training person is the requirement and for the most part this is an enrolled nurse (EN) with the necessary experience and training. Why is it that we (dentists) have to practice at higher standard than hospitals? In Queensland, an appropriately trained dental assistant has been the accepted standard in the code of practice for some time and this has not led to an increase in morbidity or mortality. In fact, NSW is the only state that requires a registered nurse, and this guideline in NSW has not prevented the one adverse outcome that has recently occurred in dental sedation.

Unfortunately this is not ASDA’s only problem: the college of anesthetists and RACDS joint document, PS21 Guidelines for Conscious Sedation in the Dental Surgery has been unilaterally disestablished by the college of anesthetists in favor of a broader document, PS9, in an attempt to get other medical colleges to agree. ASDA and the ADA, again, have vigorously opposed these changes, pointing out the documents shortcomings:
1. It does not stipulate that it is sedation by any route

2. It refers to an exemption for nitrous oxide and low dose oral sedation. The society believes that this is a very dangerous exemption as:
   a. It doesn’t separate the two; therefore an untrained operator could administer both to the same person at the same time.
   b. It doesn’t define low dose and,
   c. It doesn’t stipulate single dose, so presumably multiple low doses could be administered and this technique has been responsible for a number of deaths in the USA.

3. It specifically prohibits the use of propofol by the operator sedationist. ASDA found this to be very short sighted as drugs and techniques change over the years through experience, innovation, and the availability of new drugs and equipment. We believed that the focus of the document should be on training, defining what is conscious sedation and what is necessary for the safe practice of conscious sedation. As an example on how short sighted this could be; recently there has been some work done with propofol and infusion pumps that give a precise concentrations of a drug in the blood(target controlled infusions or TCI) and this along with bispectral monitoring has the potential to significantly improve the safety margins and shorten recovery time. Now, if this were to become best practice then where does it leave us within PS9? Furthermore, there appears to be a lot of supporting literature on sub-anaesthetic doses of propofol and if the practitioner were trained in the use of sub-anaesthetic doses of propofol, then why should they have this restriction placed on them. (There is only one reference to dental sedation in PS9 and that's to do with paediatric sedation). The evidence is simply not there. The past experience of ASDA has been that when specific drugs are mentioned, practitioners working at the margins just move to another drug, which may be more hazardous.

At this point I would like to express my gratitude to my fellow executive members, Doug Stewart and Andre Viljoen as well as the members of the ADA federal executive in their assistance. We believe that we are justified in opposing these changes and are acting in the interests of the public in opposing the changes.

Greg Mahoney
Message From The IDAS President

IFDAS REPORT 2010

The Council Meeting of the International Federation of Dental Anesthesiology Societies was held during the XII International Dental Congress on Modern Pain Control held at the Gold Coast Convention and Exhibition Centre 14 to 17 October 2009.

Present at this meeting were:
- Dr Douglas Stewart, President
- Dr Yuzuru Kaneko, Immediate Past President
- Dr Wolfgang Jacobs, Treasurer
- Dr Joel Weaver, Editor
- Dr James Phero, President-elect
- Dr Greg Mahoney, Asia/Pacific
- Dr Eliezer Kaufman, Europe
- Dr John Yagiela, America
- Dr Karen Crowley, ADSA
- Dr Yazu-ichi Yoshida, Secretary General

Council decided that the goals and policies of IFDAS should promote the integration of simulation, teaching and knowledge for the next three years. Council also agreed to form an advisory committee to promote more research and educational activity from new and younger members.

The next meeting of IFDAS will be held in Hawaii from 1st March to 3rd March 2012, and the program and venue should prove to be fantastic! The bid for 2015 was won by the German group chaired by Dr Wolfgang Jacobs, and this will be held in Berlin.

Dr Weaver informed Council that Anesthesia Progress is now available online through PubMed and issues are accessible back to 1953.

Finally, on behalf of Council, I would like to thank Dr James Grainger for his tremendous support of IFDAS as Past-President and for many years as Secretary General.

Please continue your support of IFDAS through encouraging research, education and attendance at both IFDAS meetings plus ASDA Scientific Meetings.

Douglas Stewart
President, IFDAS

From the Editor’s Desk
We will endeavour from this point forward to produce a newsletter quarterly to try to keep members up to date on topics relevant to the practice of sedation in Australia and to provide some continuing education and review topics to the members.

To this end anyone wishing to contribute with topics/questions or interesting case reports should forward them to jherbert@exclusivedental.com.au, and jefffield@hotmail.com.

We as a group have a wealth of information and by sharing this information we can all benefit from each other’s experience.

### Latest Federal Council Meeting Highlights

A Meeting of the Federal Council was held (via conference call) on Wednesday March 17, 2010 and the topics and resolutions are as follows:

1) Professor Doug Stewart has been working tirelessly fending off attacks on the society and on dental sedation in general by liaising with all relevant bodies and representing our interests. PS21 has been unilaterally dis-established by ANZCA and PS9 has been approved by the ANZCA Council. It remains to be seen which other medical colleges will become signatory to these guidelines. Hopefully our dental College, the RACDS will not sign, but there are forces within our College that want to take these guidelines on board. PS9 is a draconian document and it only allows the use of propofol if the operator is not the sedationist – even if propofol is the only drug used! This is an attempt by the College of Anaesthetists to restrict the use of this drug to anaesthetists only and is really directed at attempting to stop the use of propofol by nurse-anaesthetists. We are caught in the crossfire! Professor Stewart is working hard to try to minimize the impact on our practices but as with any branch of practice the guidelines must and will reflect public safety issues. We all owe Professor Stewart a huge debt of gratitude for the amount of time effort and personal sacrifice he has endured on our behalf.

2) All Courses run under the auspices of ASDA or CREST will incur
an additional fee of $500.00 to non-ASDA members. Although joining ASDA is not mandatory to practice sedation in Australia now we can show a further major benefit to membership.

3) Our Website will be updated and revamped by Dr. Mathew Hunter.

4) We (ASDA/CREST) will continue to run courses in sedation for dental assistants. Satisfactory completion of these course (which will be one or 2 days) will entitle the candidate to an accreditation certificate which should allow them (hopefully, if our NBA is persuaded to change its mind and allow the use of appropriately trained DA’s) to legally be involved in dental sedation.

5) The Newsletter will be linked with the Sydney General Alumni letter.

6) There is a push towards practice accreditation. It has been put forward that practices providing dental sedation should adhere to the standards for day surgeries. ASDA opposes this as too stringent and not necessary for the safe provision of dental sedation.

7) It was unanimously decided that the next ASDA Annual General Meeting would be held at the Noosa Sheraton on November 26th and 27th 2010. The Friday session will be medical emergencies with Dr. Ken Harrison and of course will, as always, be the highlight of the meeting. Saturday at least in part will be devoted to the new sedation document as PS21 has been unilaterally voided by the college of anesthetists.

8) Dr. Stewart as IFDAS president outlined the IFDAS initiative to foster and support both young dentists within our own country and sedationist in general, in countries were dental sedation is in its infancy to both get involved and stay involved in dental sedation.
The IFDAS meeting at the Gold Coast was a huge success and the interaction between members from so many different countries was amazing to see and be part of. There was a price, however. As hosting country it fell on us to pre-book and pay for all aspects of the pre-conference infrastructure. The global financial collapse along with swine flu and an excess number of dental meetings last year saw a turnout of approximately one quarter of the norm. This cost our society dearly and when all is said and done, we have a total capital of about $12000.00. This sad state of affairs could have been a lot worse had the venue and Carillon not bent over backwards to accommodate this difficult situation and be flexible with regards to the unexpectedly low numbers. We will recover I am sure, but prompt payment of your subs will really help.

With the political problems that we currently face - the National Dental Board is not on side and wants all sedations to be carried out using a RN WITH an ICU or ANAESTHESIA qualification (WTF!), PS21 has gone (check out www.anzca.com.au) and the RACDS may ratify and sign on accepting PS9 as its guidelines - we need a strong society or I fear that we will lose our right, as post-graduate, University trained sedationists, to practice sedation with the respect and freedom that we deserve. Every dentist practicing IV sedation or with an interest in IV sedation needs to write to the NBA TODAY and protest at (1) the need for an RN to be present during sedations and (2) that the Board take PS21 on board as its guidelines and that as University qualified sedationists, we refuse to be dictated to by a Medical College. Submissions should be made to The National Dental Board of Australia, via email (there is a Board meeting in three weeks – this is quickest way of getting your submission tabled) to Tanya.Vogt@health.vic.gov.au

Just by way of background, in 1990, following a death in NSW, the Coroner suggested the use of RN’s during dental sedations because there was no formal University based training program in sedation. The NSW dental board accepted this advice and made it a requirement. This may have been an appropriate step in 1990, but we now have the best University based sedation-training program in the world, and with...
additional facilities to train DA’s and provide continuing training for sedationists. **The requirement for an RN to be present is no longer valid! It is a waste of human resources and unnecessary cost to the Australian public!**

Also, any of you who are fellows (FRACDS) please write to Bernadette Drummond (bernadette.drummond@dent.otago.ac.nz) and strongly suggest that the College does not take PS9 on board as its guidelines!

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**Q & A (or try this quick quiz…..) by Dr Jeff Field**

For our Q&A this issue let’s look at identification and treatment of anaphylaxis and anaphylactoid reactions.

1) **What drugs and sundries commonly used in dental anesthesia/sedation are implicated in anaphylactic and anaphylactoid reactions?**

2) **True or false: the treatment of anaphalactoid reactions and true anaphylaxis is different.**

3) **What are the common signs or symptoms of anaphylactic and anaphylactoid reactions?**

4) **For practical purposes one could describe anaphylactic and anaphylactoid reactions as a deficiency of what?**

5) **Do the signs of anaphylactic and anaphylactoid differ under anesthesia?**

6) **Describe the treatment for anaphylactic and anaphylactoid reactions?**
A1 The most common medications that are likely to cause an anaphylactic reaction during dental anesthesia are local anesthetics, opioids, induction agents, such as barbiturates and propofol, and benzodiazepines. Agents used during an anesthetic including antibiotics can also cause an allergic reaction. Natural rubber latex gloves have been used more often during the last two decades, and the latex protein content of gloves may have increased in response to this increase in demand. This was a result of the Center for Disease Control's "Universal Precautions" for handling of body fluids, in response to the AIDS epidemic. The increased latex protein content and the increased use of latex gloves are in part responsible for the increased incidence of cases of latex anaphylaxis. One survey demonstrated that the incidence of perioperative anaphylactic shock due to latex has increased from 12.6% to 16.6% (2).

A2 False, the treatment is exactly the same for both. Some drugs will produce histamine release causing an anaphylactoid reaction without any prior exposure to the drug in question. These reactions are treated exactly the same as true anaphylaxis.

A3 The signs and symptoms of adverse drug reactions (ADR'S) will of course vary with the type of reaction, which is occurring. For allergic and "pseudo-allergic" reactions, the principal signs and symptoms are respiratory, cardiac, and cutaneous:

<table>
<thead>
<tr>
<th>System</th>
<th>Sign</th>
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<tr>
<td>Respiratory</td>
<td>Cyanosis, wheezing, bronchospasm, acute pulmonary edema, and increases in peak airway pressure</td>
</tr>
<tr>
<td>Cardiovascular</td>
<td>Tachycardia, dysrhythmias, pulmonary hypertension, decreased systemic vascular resistance (SVR), cardiovascular collapse, and cardiac arrest</td>
</tr>
<tr>
<td>Cutaneous</td>
<td>Urticaria, flushing, perioral edema, periorbital edema</td>
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Suspect any unexpected reaction to a drug as an anaphylactic reaction. Remember signs and symptoms may be highly variable with single or multiple systems being involved (Skin, GI tract, cardiovascular or respiratory). These reactions usually occur immediately (within minutes) of exposure to the allergen and patients can deteriorate rapidly.

A4 For practical purposes one could describe anaphylactic and anaphylactoid reactions as a deficiency of adrenaline as initial emergency treatment centers around and hinges on giving adequate amounts of adrenaline to shut down the reaction. Remember sometimes it takes as much as 7.0mg or more of adrenaline may be required at a redosing rate of 3-5 minutes. In other words according to Ken Harrison you continue to give epinephrine until you shut down the reaction.

Also remember that if after your initial dose (0.3-0.5 mg) of adrenaline, the patient is still crashing consider increasing your second dose.

NOTE: If no IV access in place then give IM adrenaline using 1:1000(1mg/ml) at the following sites:

- Mid deltoid
- Tongue
- Anterior thigh

IM doses based on weight are:

- <50kg start at 0.25 mg
- >50kg start at 0.50 mg
- >100 kg start at 0.75 mg

If initial dose(s) are IM try to establish IV access, as it will be required for fluid resuscitation and additional drug therapy.

A5 During anesthesia/sedation, the clinical features of an allergic reaction are often masked as patients may be covered by surgical drapes, and cannot communicate effectively as a result of the anesthesia/sedation. Tachycardia and circulatory collapse may be the only signs of an allergic reaction, and they are easily misdiagnosed. Bronchospasm is reported
to be present in about 40% of cases. Successful management of these patients includes stabilization during the acute reaction and avoidance of future reactions. Identification of the causative drug and potentially cross-reacting compounds should be addressed.

**A6** Awareness of agents that have a high incidence of anaphylactic and anaphylactoid reactions and a knowledge on how to react to these events may prevent more serious outcomes from occurring. However, in the presence of an acute reaction, the initial therapy for this and other similar reactions must be directed towards patient stabilization.

**Initial Management**

1. Call for help, get staff involved, and activate the ERS system. Transfer all patients to hospital even if you stabilize them in your office as laryngeal edema may persist for days after a reaction.

2. Remove potential sources of the reaction; discontinue any medications, which are being infused. Evaluate what the last interventions’/medications were. If no IV access establish one early on with a large bore IV canula( 16 or 18 if available)and if the patient was not being monitored get them attached to a vital signs monitor( ECG, BP, SPO2)

3. Maintain the airway and administer 100% high flow oxygen; intubate if necessary and you are capable of, and competent to, intubate.. BLS applies here if the patient becomes pulseless.

4. Administer 25-50 ml/kg of crystalloid (approximately 2.0 liters initially for fully blown anaphylactic reaction).

5. Administer adrenaline by one or more routes:
   - Intravenous: Use 1:10,000 solution and give 1-5ml (0.1-0.5 mg).
   - Subcutaneous/Intramuscular: (in absence of IV): Use 1:1000 solution giving 0.3-0.5 ml (0.3 to 0.5 mg).
   - Endotracheal: 5-10 times IV dose, (2.5-5.0 ml of the 1:10,000 solution)
6. Discontinue all anesthetic agents as soon as practically possible.

*NOTE actions 2-6 are simultaneous once you mobilize your team*

Following these actions, secondary therapy may be contemplated. However most would occur after hospital admission or are controversial in their effectiveness:

1. Administer antihistamine (*controversial, especially H2 type*)
   - Diphenhydramine (H1) 1 mg/kg IV or IM (maximal dose 50 mg)
   - Ranitidine (H2) 1 mg/kg IV (maximal dose 50 mg)

2. Administer glucocorticoids (*can wait till hospital admission as they won’t help in the acute phase of stabilizing the patient*)
   - Hydrocortisone 5 mg/kg initially then 2.5 mg/kg q 4-6 hrs, or
   - Methylprednisolone 1 mg/kg initially then 0.8 mg/kg q 4-6 hrs.

3. Administer aminophylline for bronchospasm (*also controversial*)
   - Loading dose 5-6 mg/kg, then 0.4-0.9 mg/kg/hr (check blood levels)

4. Administer inhaled beta 2 agonist for bronchospasm (*ventolin*), and Atrovent 2 puffs each by puffer or 4 puffs each down the endotracheal tube. (*This is appropriate in the office setting during acute stabilization of the patient but is NOT a substitute for appropriate epinephrine dosages to shut down the reaction*)

5. Administer a catecholamine infusion if needed for blood pressure support (*in other words you have initially shut down the reaction and the patient starts to stabilize but then crashes again*)
- Epinephrine 0.02-0.05 mcg/kg/min; approx. 2-4 mcg/min
- If no infusion pump is available then place 3mg in a 500 ml bag of saline to get 6 mcg/ml and dial up the infusion rate until the patient is stable.

6. Ketamine to deal with very difficult resistant bronchospasm (The patients blood pressure has stabilized but you have not broken the bronchospasm. This is a last ditch treatment when conventional treatment has failed).

The doses quoted in the literature range from 0.75mg/kg to 2.0 mg/kg. In all case this would have to be followed up in hospital by an infusion of 0.75 mg/kg. The effective time frame from your initial dose will be 15-30min before an infusion would be needed.

7. Consult allergist, and have blood drawn immediately on admission to hospital for levels of mast cell tryptase, complement C3/C4, and histamine as these return to baseline very quickly.