Current guidelines for the use of nitrous oxide inhalation analgesia/anxiolysis in pediatric dentistry

By Dr. Manal Al Halabi, UAE

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Abstract

1. Nitrous oxide/oxygen inhalation analgesia and anxiolysis as a behavioral management intervention in children has maintained an excellent safety record and is, therefore, utilized widely by pediatric dentists. As is true of any diagnostic or therapeutic dental intervention, however, its usage merits periodic review, especially when it is routinely applied. When nitrous oxide/oxygen is used in combination with other sedatives, such poly-pharmacy can produce potentially serious side effects. Bio-environmental risks to patients and staff can be encountered if proper use of the gas and appropriate dispensation of exhaled nitrous oxide is not monitored. Using historical publications, current empirical articles, professional usage policies, and educational textbooks, the purpose of this article was to review indications and contraindications of nitrous oxide/oxygen inhalation analgesia and anxiolysis and discuss various factors that should or should not be considered about its use. Even though today's parents may be more accepting of pharmacological approaches such as nitrous oxide, the choice to use it should always be made with the child's best interest in mind and with adequate training and understanding.

Introduction

After the analgesic qualities of nitrous oxide were discovered in the 19th century, dental practitioners experimented with it as an anesthetic for dental procedures. However, its use waned as the dawn of the 20th century, N2O had become much safer and enabled dentists to administer nitrous oxide with much greater confidence to pre-procedure mobility. In addition, allowing for both rapid onsets and immediate off-sets, it is absorbed quickly through the nose. Studies have shown that children desaturate more rapidly than adolescents, and administering 100 percent oxygen to the patient once the nitrous oxide has been terminated is important.

Nitrous oxide causes slight depression in cardiac output though peripheral resistance is marginally increased, thereby sustaining the blood pressure. This is of particular advantage while handling patients with cerebrovascular system disorders. Nitrous oxide is absorbed quickly, allowing for both rapid on-set and recovery (two to three minutes). It causes negligible impairment of any reflexes, thus protecting the cough reflex. It exhibits a superior safety profile with no recorded fatalities or cases of serious morbidity when used within recommended concentrations. Studies have reported negative outcomes as associated with use of nitrous oxide greater than 50 percent and as an anesthetic during major surgery. Although rare, silent regurgitation and subsequent aspiration need to be considered with nitrous oxide/oxygen sedation. The concern lies in wheth-

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or pharyngeal-laryngeal reflexes remain intact. This problem can be avoided by not allowing the patient to go into an uncon-

scious state.

Nitrous oxide has been associ-

ated with bio-environmental concerns because of its contri-

bution to the greenhouse effect. Bacteria in soils and oceans emit nitrous oxide naturally; it is produced by humans through the burning of fossil fuels and forests and the agricultural prac-

tices of soil cultivation and ni-

trogen fertilization. Allogether, nitrous oxide can account for five percent to the greenhouse effect. Only a trivial fraction of this five percent (0.5 percent to two per-

cent), however, is actually the result of combined medical and dental applications of nitrous ox-

ide gas.

The decision to use nitrous oxide/oxygen inhalation analgesia

Nitrous oxide/oxygen inhalation analgesia should be offered to children with mild to moderate anxiety, thereby enabling them to accept dental treatment better and to facilitate coping across sequen-
tial visits. The analgesic use of nitrous oxide/oxygen analgesia/anxiolysis must always utilize anxiolytic effect involving activation of the GABAA receptor both di-

ally and through the GABAergic neuronal network. GABA is a powerful inhibitor of neural transmission in the central nervous system and acts by competing at the GABA receptor to reduce the frequency of neuronal action potentials. Nitrous oxide inhibits the action of GABAergic neurotransmitter, thereby increasing neuronal activity and resulting in activation of nitrous oxide and oxygen sedation. The concentrations, however, should be considered with nitrous oxide/oxygen sedation.

The objectives of the Use of nitrous oxide/oxygen inhalation analgesia

The objectives of nitrous oxide/oxygen inhalation analgesia are:

1. Reduce or eliminate anxiety.
2. Reduce untoward movement and reaction to dental treatment.
3. Enhance communication and patient cooperation.
4. Raise the pain response threshold.
5. Increase acceptance for long-

er appointments.
6. Aid in treatment of the men-

tally/physically disabled or med-

ically compromised patient.
7. Reduce gagging.
8. Potentiate the effect of seda-

tives.

Disadvantages of nitrous oxide/oxygen inhalation analgesia:

Disadvantages of nitrous oxide/oxygen inhalation include:

1. Weak potency.
2. Significant dependence on psychological reassurance.
3. Interference of the nasal hood being used.
4. Patient must be able to breathe through the nose.
5. Nitrous oxide and oxygen inhalation sedation may be inad-

icent.

6. Recent illnesses (eg, cold or influenza) with due consideration to their individual needs and medici-

nal condition, involving the as-

sistance of medical colleagues where appropriate.

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Nitrous oxide pollution and potential occupational exposure health hazards.

Indications for the use of nitrous oxide/oxygen inhalation analgesia

Indications for use of nitrous oxide/oxygen inhalation analgesia include:

1. A fearful, anxious, or disrup-

tive patient.
2. Certain patients with special health care needs.
3. A patient whose gag reflex interferes with dental care.
4. A patient with profound local anesthesia cannot be ob-

tained.

Fitness for nitrous oxide/oxygen inhalation analgesia

Review of the patient's medical history should be performed pri-

or to the decision to use nitrous oxide/oxygen inhalation analgesia. This assessment should include:

1. Allergies and previous adverse drug reactions.
2. Current medications including the date and purpose.
3. Medical conditions, or physi-

cal abnormalities and pregnan-

cy status.
4. Previous hospitalization to in-

clude the date and purpose.
5. Recent illnesses (eg, cold or congestion) that may compro-

mise the anesthetic.
6. History of nitrous oxide/oxygen inhalation sedation in general, community or specialist (pedi-

atric) practice. Those who are not in these categories requiring conscious sedation should be treated in a hospital environment with due consideration to their individual needs and medici-

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sistance of medical colleagues where appropriate.

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5. Increase acceptance for longer appointments.
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10 Years of Successful “Continuing Dental Education” by CAPPmea

By Dental Tribune MEA/CAPPmea

Dental Tribune Middle East & Africa Edition | May-June 2015

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Dr. Julian Caplan, UK: 10 years ago CAD/CAM was being heavily used by laboratories but still had limited capabilities chairside. The limitations of the camera and the software reduced the clinical options and the interplay between CAD/CAM technology in-surgery and CAD/CAM technology in-lab. The software was “3D” but there were still few “players” in the market. There were a number of competitors beginning to enter the arena and this would be a catalyst for established companies to make radical changes to their systems. Prof. Aref Shakar, Egypt: CAD/CAM & Digital Dentistry was dealt with as if it came from Mars in our region 10 years ago. Many dentists were dealing with this logic as “Not for every dental field”. But with such a specialized event like CAD/CAM & Digital Dentistry Int’l Conference in Dubai, the awareness of this topic as “Not for every dental field”. But with such a specialized event like CAD/CAM & Digital Dentistry International Conference in Dubai, the awareness of this topic as “Not for every dental field” grew. This growth was due to support and training of the dental manufacturers, the switching of dental manufacturers to open systems and the dental community in general who followed us in this decade of significant growth of this area. The journey in the last decade came along with many challenges related to the incredible pace of growth of industry and new technologies, particularly in digital dentistry. Ten years ago, one could not imagine that such opportunities existed. They are now able to change dentistry and improve dramatically the patient care. All from diagnostics, planning to the treatment in term of precision, time-consuming and aesthetic treatments.

What has been accomplished in the past 10 years is truly significant. CAPPmea would like to express its highest appreciation of the role of our business partners, industry, sponsors and supporters in helping CAPPmea make the success story that it is today. Thanks to all who have worked with CAPPmea, sharing the challenges and the passion that come along. Thanks to all dentists, dental technicians, dental hygienists and assistants, who followed us in this decade of fast development of dental industry and technology. We look forward to another decade of being together.

For more information please visit www.cappmea.com

By Dental Tribune MEA/CAPPmea

Dr. Munir Silecendi, Canada: 10 years ago CAD/CAM dentistry was more or less in its infancy stage. Though chairside systems, such as the Cerargy chairside system from Sirona, were well in a reasonably advanced stage, most of the dental laboratories oriented systems were just learning to crawl. Very few dental manufacturers ventured into this technology. A side from some high precision milling units, such as the Evermist Milling Unit from KaVo, both hardware as well as software did not enjoy the required features to warrant predictable and precise restorations.

Dr. Mark Morin, USA: CAD/CAM was available but only provided a limited scope. The number of users was very small. There was only one company that made the machine. It could only do limited types of restorations and there were limited materials available to make the restorations.

Lutz Ketelaar, Germany: Digital dentistry was driven by closed systems, the sharing of capacities not implemented, not even at most in people’s mind. The major driver for CAD/CAM were full ceramic restorations, ZrO2 an upcoming material with a lot of hope and trust - not always fulfilling all expectations technicians did -

This was mainly driven through a lack of understanding on the lab side though. I remember the Procura era, where a scanner which just could create single restorations was enough to win fans all around the world with a central manufacturing solution using AD05, on the other hand a DC5 in-house system which was on exhibitions, resulting restorations out of hip-material. The switch came with the ZrO2 green stage material, as it allowed to mill economically ceramic materials.

Even though there was no movement for open systems, the industry made the implementation of CAD/CAM possible, due to support and training of dental technicians. Information Technology was never part of the dental world and the majority of dental technicians did not even believe that soft- and hardware would change their
Dr. Julian Caplan, UK, 5th CAD/CAM & Digital Dentistry Int’l Conference

Dr. Julian Caplan, UK, 7th CAD/CAM & Digital Dentistry Int’l Conference

Dental Tribune MEA: Today, what aspects of dentistry have been altered most due to the rapid development of CAD/CAM?

Dr. Julien Caplan, UK: In surgery restorations, particularly for posterior indirect restorations, have become simplified and far less technique sensitive to finally make this technology a more mainstream option. Dentists can now visualize how they can integrate this technology into their everyday dental practice. The ability to morph CAD/CAM scans into CT scans is simplifying computer-guided surgery. Pre-planning for accurate implant placement utilizing CAD/CAM and CT scans will become the industries standard although the necessary surgical skills will still be a requirement - the computer has not replaced the surgeon – yet.

Prof. Atef Shaker, Egypt: Well, development of CAD/CAM and its speed progress, have touched every dental field. Of course, Restorative and Fixed Prosthodontics fields have gained the highest advancement, but Orthodontic, Surgical, Removable Prosthodontics & Radiology branches of dentistry have been included in the CAD/CAM developments. In my opinion, within 5 years from now, CAD/CAM & Digital Dentistry will be covering all specialties of the dental science.

Lutz Ketelaar, Germany: I am often surprised how quick the old values of manual dentistry have been new solutions and how the markets adapt this opportunity worldwide. For me personally, the direction of monolithic restorations with the opportunity to go nes-ne and virtual adaptations, without losing esthetics out of the view, is a big change and can be seen on the materials that are being offered - simple ZrO2 has been replaced for translucent variations in 16 shades, classical porcelain has a successor in high strength technical glass materials which natural opalescence and fluorescence.

CAD/CAM is not limited by its opportunities, but of economic aspects - not everything that is possible makes sense. The trust into the investment of new technologies with an open end is limited - The price for machines, materials and dental restorations is very much under pressure, knowledge and service are underestimated and almost utilized.

Dr. Manir Sihadeh, Canada: Almost every single discipline of dentistry has its share of CAD/CAM technology. Probably the fields of Aesthetic, Restorative and Prosthetic Dentistry got the lion’s share. Indirect restorations are more precise and predictable when fabricated through CAD/CAM systems. Guided Implant Surgery made the field of Implantology an easier and safer procedure. CAD/CAM driven orthodontics as well is getting more and more utilized.

Dr. Mark Morin, USA: I feel that today the aspects of dentistry that have been altered most in our profession is CAD/CAM is the implant and the lab world. The lab world is now almost all digital and connected to the office through the internet. Dentists have learned how to work with these labs differently than they did in the past. The implant world has now been simplified with cone beam technology. It has made it easier for the dentist to treatment plan, place, and restore the implants.

Lutz Ketelaar, Germany: Many technologies? I am often surprised how quick the old values of manual dentistry have been new solutions and how the markets adapt this opportunity worldwide. For me personally, the direction of monolithic restorations with the opportunity to go nes-ne and virtual adaptations, without losing esthetics out of the view, is a big change and can be seen on the materials that are being offered - simple ZrO2 has been replaced for translucent variations in 16 shades, classical porcelain has a successor in high strength technical glass materials which natural opalescence and fluorescence.

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Rik Jacobs, The Netherlands: So many aspects, it is based on imagination what happened only 10 years ago. Certain treatments can be completely planned and executed by CAD/CAM, consider Cone Beam CT, the success of CEREC at the practice of the Doctors, the transformation of a handcraft to a high tech virtual planned 3D working environment, the start of the Milling centers, the overproduction of the total number of milling centers in certain countries, the total acceptance of Zirconia for Crowns & Bridge applications and shortly 3D Printing which will become more and more accepted in the profession.

Dental Tribune MEA: What advantages do CAD/CAM systems offer for the dental practices versus conventional technologies?

Dr. Julian Caplan, UK: In surgery CAD/CAM systems allow the dentist immediate evaluation of their preparations - specifically clarity of their margins and occlusal clearance. In fact many universities are utilizing this technology for their undergraduate teaching. The wonderful progression of this pre-manufacture assessment using digital scanners is that the preparation can be altered while there are deficiencies in the preparation, the altered parts removed from the original scan and only this part need be rescaned. This comes into a world of its own when a dentist is involved with multiple preparations which previously would require a completely new impression if one of the preparations did not fulfill the required criteria. CAD/CAM scanning is not only time efficient it also greatly reduces a dentist stress.

Prof. Atef Shaker, Egypt: CAD/CAM systems added many advantages to the dentists as well to the dental patients. Speeding up the dental treatments was a recognition which had not been possible without CAD/CAM systems. High quality of precision has transferred the dental field to another spectrum of perfection. Technology-based treatments have increased our patients’ expectations, which are now possible, thanks to the versatility of Digital dental products.

Dr. Manir Sihadeh, Canada: CAD/CAM generated restorations are more precise and fit better than conventionally produced restorations. They can be manufactured in a faster and better reproducible way. CAD/CAM technology saves time, offers safer treatment methods, and makes practicing dentistry less stressful and more enjoyable.

Dr. Mark Morin, USA: The advantages that CAD/CAM offers to the dental practice over conventional technologies are numerous. The first one is efficiency. The ability to do crowns in one visit helps increase the profitability of the dental office. It allows us to participate in more of these PPO type insurance plans since it helps us control our cost by eliminating the lab expense and a second appointment. Studies have also shown how the use of digital impressions are much more accurate and predictable than the traditional impression technique. It also benefits the patients because it makes the treatment predictable and convenient.

Lutz Ketelaar, Germany: CAD/CAM allows a constant high quality of restorations, not only depending on manual skills in dental education - this is not the end of the classical dental technicians, otherwise we could also expect PC-gamers who play flight simulators to take over your next flight to Europe. Dental knowledge allows to use the instrument of CAD/CAM to become a perfect solution for an efficient workflow in high, mid and low price segment.

Rik Jacobs, The Netherlands: Predictably, the transformation of flow management, relieving the client & saving costs.

Dental Tribune MEA: Given the proven positive results, what are the reasons why some dental practices are remaining on the sidelines when it comes to CAD/CAM technology?

Dr. Julian Caplan, UK: There are many reasons but the main reason is perceived cost of the systems to purchase. However this is only because the practitioners has not understood the savings that they would make in materials and laboratory costs.
SIRONA LLC founded in Dubai to support a direct operation for UAE private market

By Sirona

Dubai, UAE - IDS Cologne was once again a record breaking trade fair. Si- rona presented itself to industry professionals as an experienced specialist in the field of digital technologies for dentists and dental technicians. This was borne out by spectacular innovations in digital intraoral and extraoral imaging, digital therapy as well as pioneering new developments for CEREC and treatment centers. For the Middle East region, dental professionals will be able to see these latest innovations during the anniversary upcoming 10th CAD/CAM & Digital Dentistry Int Conference in Dubai on 09 May 2015 - Jumeirah Beach Hotel.

As the dental market leader and a technology pioneer, all at Sirona are passionate about enhancing our products and services. We are permanently investing in research and development, as well as our global sales and service structures. Being close to our customers is essential, which is why we have 26 sites around the world where we work together to advance global dental health.

In May 2015, Sirona LLC will be founded in Dubai in order to support a direct business operation towards the private customer market in UAE. The big suc- ccess of previous years has been recorded through increasing sales and services experienced by Sirona in the region. This is an important step for Sirona in improving the delivery of professional sales, after sales and dental education to the UAE market. Sirona LLC will continue to work alongside MPC in order to fully service the needs of the Government sector which remains equally important.

With UAE being a significant hub for its business and education in GCC, the setting up of Sirona LLC underlines the constant commitment to re- search, development and better servicing of the end-user with surpassed quality to the den- tal industry whilst remaining reinforcing the image of Sirona worldwide. This will be achieved through a fully dedicated Sirona sales and technical team and Product specialists who will work closely together to deliver premium ser- vices to the private market in the UAE.

As you can imagine we have much more to share, so Sirona encourages you to browse our website and review the highlights of 2014 and novelties of IDS 2015. You will enjoy diving into our world of innovation and reading about some of Sirona’s advancements, both within this issue of Dental Tribune MEA and on our official website as well as through all of our online channels.

Make sure you visit Platinum Sponsor Sirona at the upcoming 10th CAD/CAM & Digital Dentistry International Conference on 08-09 May 2015, Jumeirah Beach Hotel where we will pre- sent the latest trends and de- velopments for the first time after IDS Colonge.

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FKG Dentaire launches first anatomic finisher for root canal treatments

By FKG

The latest innovation from FKG Dentaire lets practitioners treat complex root canal systems and clean once impossible-to-reach areas with minimal impact on the dentine. Made with a highly flexible NiTi-based alloy, the XP-endo Finisher follows the contours of the canal with an improved reach of 6mm in diameter—or 100-fold that of a standard instrument of the same size.

“With the XP-endo Finisher, we can finally solve a common problem for dentists,” said Thierry Rouiller, CEO of FKG Dentaire, one of the world’s leading manufacturers of endodontic instruments. “They’ll now be able to reduce the risk of future infection by offering patients a deeper cleaning for a better root canal treatment.”

Studies using micro CT technologies show that standard NiTi files manage to clean just 45 to 55 per cent of the canal walls, leaving debris and bacteria to accumulate in areas left untouched. However complex the morphology of the canal, dentists can use the XP-endo Finisher following a root canal preparation starting at diameter ISO 25. A unique FKG alloy, the MaxWire (Martensite-Austenite electropolish-flEx), gives the instrument unparalleled flexibility so it can remove debris from those hard-to-reach areas, while limiting the impact on the dentine.

“Now (the canal) is cleaner, perhaps two to three times compared to the conventional techniques we have today,” said Dr. Gilberto Debelian, Norway. The instrument also features a strong resistance to instrument fatigue, thanks to its zerotaper design, and is simple enough for dentists to quickly learn to use.

The XP-endo Finisher joins a growing list of innovative high-precision products patented by FKG Dentaire to meet the most demanding needs of general practitioners and endodontists around the world.

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Interview with Dr. Martin Trope

By Dental Tribune MEA/CAPNews

Dental Tribune MEA has the pleasure to interview Dr. Martin Trope, past Endo program director at University of Pennsylvania, and chairman of the Endo division at Temple University Dental School and University of North Carolina Dental School. Dr. Trope was also the Director of the American Board of Endodontics.

Dental Tribune MEA: Dr. Martin Trope, you have lectured and provided training in the Middle East several times. What is your experience and feeling of the level of Endodontics in the MEA region?

Dr. Martin Trope: The level of the dentists who have attended my courses is very high. I don’t really know the general level of endodontics in each country. The variability comes in what the dentist can afford in terms of cutting edge technology. In some countries the fees charged for root canal treatment limits what the dentist can afford. This is a universal problem so not limited to the Middle East.

How important is it for a dentist to specialize, particularly in Endodontics and what is the reason you chose to do so?

There are some cases that require additional expertise. I don’t think it is important for a dentist to specialize but to recognize those cases where a specialist is needed. I like to do one thing well so endodontics suits my character although I must admit sometimes it can be very tedious.

How do you stay up to date with the latest technologies?

> Page 41

3D efficiency — optimal cleaning while preserving dentine

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**DENTAL TRIBUNE Middle East & Africa Edition | May-June 2015**

being developed in dentistry?
I am a faculty at the University so the students keep my up to date by making me read and challenging me all the time.

Known for your research and development in material development for root canal fillings, can you share with us specifically your philosophy of Biological Endo?
Endodontics is simply microbial control and all the research and technologies I have developed are directed at either removing microbes from the root canal or sealing the canal after the instrumentation and irrigation is completed.

What are the main advantages of Bioceramic sealers like TotalFill BC Sealer?
These sealers do not shrink and wash out so they have tremendous advantage over traditional sealers that do. Because of these advantages the sealer does not have to be in a thin layer which changes the entire philosophy of root filling.

There are different products in the range, what are their difference and purpose?
Bioceramics are a specific class of material. MTA is the first bioceramic material for endodontic use. It is mixed to a putty consistency and used for vital pulp therapy and endodontic surgery as a root filling material. Newer bioceramics are similar in properties and have better handling properties and are used for similar purposes. Presently there is only one premixed bioceramic (TotalFill) that has the consistency that is suitable for a root canal sealer and this is the one that is revolutionizing the way we think of how a root filling should be done.

Due to your extensive academic background and clinical experience, you have started Next Level Endodontics, can you share with us more information on this?
I am trying to combine my academic expertise with the need for efficiency and profitability in private practice. Next Level Endodontics is my private teaching center that will remind the dentist of what is essential for success in root canal treatment and evaluates new technologies in order to achieve this aim predictably and in a reasonable time. We offer a wide range of courses to fit the level and time commitment that the dentist has available.

Do you plan to extend Next Level endodontics course in the MEA region?
Yes – hopefully we will have a branch in Dubai in the next year.

How came the idea of the new XP-endo Finisher?
We have understood the need to clean the canal in all dimensions but have been limited because the files are round but the canals are oval. The engineers and research people at FKG were able to manipulate the martinite and austenite phases of the NiTi file in order to make it flexible enough to move in all directions and so clean areas unreachable in the past.

What are the advantages of the XP-endo Finisher and did it change your vision of endo treatments?
The advantage is that it reaches areas that were previously left untouched by round files. In addition it causes the disinfecting irrigants to work in a turbulent fashion which makes them much more effective.

Would you like to share anything else with the readers of Dental Tribune MEA?
My advice is always the same: the biologic requirements for successful root treatment always stay the same. The technology continues to change but is not always useful to reach the biological goals. An educated dentist can evaluate new technologies in the context of the biological requirements and change only if there is an improvement in this direction.

TotalFill range is available in FKG Dentaire distributor network: http://FKG.ch/dealer
How are we doing? Getting the best from your staff

By Fiona Stuart-Wilson

It's true we live in an ideal world where nothing ever went wrong. In many cases, people always took up treatment plans and arrived for their appointments on time and never missed another appointment. We probably wouldn't need to talk about managing performance. Although sometimes we might want to believe that staff know what they need to do and will get on with it to the best of their ability at all times, we all know this is unlikely to happen.

The success of your practice is in the hands of everyone within it and depends on their delivering a good service. Any weak link in the chain will have a negative effect on your practice and on your ability to deliver a high-quality service to patients and run a successful dental business. The point of managing performance is to make sure that the performance of your team contributes to the development and success of your practice, and taking action to improve things when this does not happen.

If you manage performance effectively it will mean that everyone in your practice understands:

• what the practice is trying to achieve;
• their role in helping the practice achieve its objectives;
• what they need to know and what they need to be able to do to fulfil their role;
• the standards of performance required;
• how they can develop their own performance and contribute to the development of the practice;
• how they are doing, and if there are performance problems what can be done about them.

However, good performance management looks at how people do their job as well as what they get done. So, how a person approaches their job, or the way they behave as part of a team or communicate with patients and the rest of the team is just as important as what tasks they actually achieve. For example, your receptionist might make appointments with unfailing accuracy. Their performance might be described as good. However this receptionist might be routinely unfriendly to patients. In the latter case we are highly unlikely to describe their performance as “good”, as we are measuring it on how they perform their job (their behaviour) and not solely on what they do (their activity).

Performance management however is more than simply trying to get staff to do things which will help the practice achieve its objectives. Handled well it can encourage both the giving and receiving of feedback, and unlock ideas for improvement and innovation, clarify standards, and foster greater communication.

Clarity and communicate the aims of the practice
You want people to deliver the objectives that you set for your practice. Your staff’s performance can only be measured in terms of the practice’s performance. Things often fall down and business performance can falter because the objectives of the practice have not been clarified and established by the practice owners. Everyone needs to know what the practice objectives are, and you need to remind people of them frequently to keep them focused. As you achieve certain milestones, don’t forget to tell your staff about what they have achieved!

Clarify people’s roles
Make sure that you have clear and detailed job descriptions and person specifications and update them when working practices change. Job descriptions describe what you expect people to do. Person specifications describe what they are likely to need to have in order to fulfil their roles effectively and focus on the ‘how’ people carry out their role.

Make sure that you have clear policies
Your policies are your book of rules, clear statements about the way your practice should operate. If you do not tell people what they should be doing you cannot complain if they don’t do it.

Know how to get good performance
Make sure that you know how to help people improve through training, coaching and development opportunities to get them to the standard you want.

Provide honest and constructive feedback
Give open, honest and direct feedback regularly so that people know what they are doing well just as much as what they are not doing well, and establish a performance review system which allows for two way discussion.

We all want staff who are engaged, take pride in their job and show loyalty towards the practice. If your team can see the bigger picture and how their role contributes to the success of the practice they are more likely to do their best for you. Performance management is about continuously improving the performance of individuals and in so doing improving practice performance.

And that’s not just good for the practice – it’s good for patients too.

The foundation of this usually involves creating a unique selling advantage.

• Then create a good marketing strategy, which will attract the right type of patients to your practice. The kind of patients who are more likely to be interested in your specific type of dentistry or service.

• You need to get your entire team in on the action of what you are trying to do.

• Create systems within the clinic on accomplishing the unique experience for your patients, which complements with your marketing message.

• Customer service is a key element of an excellent provision of your dentistry.

• Educate your patients on their conditions so that they are more involved in the process of co-discovery. This will make it easier for you to give options and advise.

• Make it easier for your patients to be able to afford the dentistry. Consider all options.

• Make sure you have a process in your clinic, which continues to provide a consistent experience for your patients. (Check my book, Quality & Standardization section).

Fiona will be presenting a great seminar on the Dental Business Management Conference in Dubai – 12th June, 2015

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Look at the bigger picture

By Eniko Simon

Analyse data to understand the performance of your dental business

There are many important decisions we have to make when managing a dental clinic— we make these decisions on gut instinct or based on previous experiences or by analysing data that is available for us.

Most of the dental clinics I have been working with had some understanding of the power that data can add to their business. It is essential that you regularly track a wide range of data across your clinic to allow you to have a good understanding of your business. Now days there are fantastic dental software such as Software of Excellence or R4 very well known on the market. These dental software can assist dental businesses to analyse important key performance indicators gain a better understanding of their business.

Some data that you need to look at – who are your patients, how did they hear about your clinic, nationality, age group, your chair occupancy in your clinic, the hourly turnover your associates generating, how many new patients you have monthly and many more KPIs we can look at. Undeniably collecting clean and reliable data and analysing it in a consistent way is part of 21st century management.

Data is the fundamental ingredient in decision making, figuring out where to focus your resources, create your targeted marketing approach.

Taking control of your data

The data on its own has no meaning, it can not provide the full picture, it does not take into account the values you stand for and the culture you trying to create in your dental business or your patients’ personal feelings they feel about your clinic.

Practice data alone can not be used to guide the success of the clinic. In order to fully utilize the facts and figures they need to be put into context. Hours spent collecting data is wasted if the bigger picture not taken into consideration.

The clinic’s short and long term goals needs to be agreed upon and once you are on your journey the collected data can demonstrate if you are on the right track to achieve your goals.

The numbers provide an effective tool to help manage and control the growth and development of your dental business but do not set the strategy you need to adopt.

Constantly analyse your data – look at how your clinic is performing. The right data at the right time will aid your decision making process regarding your finances, marketing, operations of your clinic – but be ensure that you control your data and put it into context.

Always understand the “whys” to know the way forward to the “hows.”

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By Planmeca

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Planmeca Romexis® is the only dental software platform in the world to combine all imaging and the complete CAD/CAM workflow. This powerful solution is at the heart of the Planmeca ecosystem, as it provides dental professionals with the ability to acquire more detailed data sets than ever before. Planmeca Romexis includes advanced tools for all specialties, such as implant planning and other restorative treatments. The software presents dental clinics with a superior way to increase their patient flow and improve the level of care offered.

Seeing more than ever before
5. A cooperative child undergoing a lengthy dental procedure.

Contraindications for the use of nitrous oxide/oxygen inhalation analgesia
Contraindications for use of nitrous oxide/oxygen inhalation may include:

1. Some chronic obstructive pulmonary disease
2. Common cold, tonsillitis, nasal blockage
3. Pre-cooperative children
4. Severe emotional disturbances or drug-related dependences
5. First trimester of pregnancy
6. Treatment with bleomycin sulfa
7. Methylenedtetrahydrofolic reductase deficiency
8. Cobalamin deficiency

Whenever possible, appropriate medical specialists should be consulted before administering analgesic/anxiolytic agents to patients with significant underlying medical conditions (e.g., severe obstructive pulmonary disease, congestive heart failure, sickle cell disease, acute otitis media, recent tympanic membrane graft, and acute severe head injury.

The technique of nitrous oxide/oxygen inhalation sedation was first described in the 1890s and has been used extensively ever since. Nitrous oxide is a colorless, odorless, non-flammable gas used in dentistry as an analgesic and anxiolytic agent.

Nitrous oxide is a colorless and odorless gas that, when mixed with 100 percent oxygen, can provide quick sedation. It is often used in conjunction with other sedation techniques, such as oral sedation or intravenous sedation.

Nitrous oxide is administered through a nasal mask or a mouthpiece, and the patient is instructed to breathe deeply and evenly. The concentration of nitrous oxide inhaled is typically between 20 and 60 percent.

Nitrous oxide/oxygen analgesia/anxiolytic administration Only appropriately licensed and trained pediatric dentists must administer nitrous oxide/oxygen. The practitioner responsible for the treatment of the patient and/or the administration of analgesic/anxiolytic agents must be trained in the use of such agents and techniques and appropriate emergency response.

Selection of an appropriately sized nasal hood is very important. A flow rate of five to six liters per minute is appropriate for most patients. The flow rate can be adjusted after observation of the reservoir bag. The bag should be puffed gently with each breath and should not be either over- or underinflated. Introduction of 100 percent oxygen for one to two minutes followed by titration of nitrous oxide in 10 percent intervals is recommended. During nitrous oxide/oxygen analgesia/anxiolytic, the concentration of nitrous oxide should not normally exceed 50 percent. Studies have demonstrated that gas concentrations of 70 percent may be tolerated by the patient’s respiratory system.

During treatment, it is important to continue the visual monitoring of the patient as well as the following respiratory rate and level of consciousness. The effects of nitrous oxide are largely dependent on the patient’s psychological and biological readiness. Therefore, it is important to continue traditional behavior guidance techniques during treatment. Once the nitrous oxide flow is terminated, 100 percent oxygen should be delivered for five minutes. The patient must return to pre-treatment responsiveness before discharge.

Monitoring
The response of patients to procedures performed under nitrous oxide/oxygen analgesia/anxiolytic serves as a guide to their level of consciousness. Clinical observation of the patient must be performed during any dental procedure. During nitrous oxide/oxygen analgesia/anxiolytic, continual clinical observation of the patient’s responsiveness is an important factor. A regular examination and a local anesthetic monitoring guidelines for the appropriate use of sedation must be followed.

Adverse effects of nitrous oxide/oxygen inhalation
Nitrous oxide/oxygen analgesia/anxiolytic is an excellent safe record. When administered by trained personnel on carefully selected patients with appropriate equipment and techniques, nitrous oxide is a safe and effective agent for providing psychopharmacological guidance of behavior in children. Acute and chronic adverse effects of nitrous oxide on the patient are rare. Nausea and vomiting are the most common adverse effects, occurring in 0.5 percent of patients. A higher incidence is noted with longer administration of nitrous oxide/oxygen, fluctuations in nitrous oxide levels, and increased concentrations of nitrous oxide.

Typically, if a child appears restless during the course of administration of nitrous oxide/oxygen, they might be ready to vomit or they might be entering into a deeper stage of sedation. Fasting is not required for patients undergoing nitrous oxide analgesia/anxiolytic. The patient, however, may advise that only a light meal be consumed in the two hours prior to the administration of nitrous oxide. Diffusion hypoxia can occur as a result of rapid release of nitrous oxide from the blood stream into the alveoli, thereby diluting the concentration of oxygen. This may lead to headache and dizziness and can be avoided by administration of 100 percent oxygen after nitrous oxide has been discontinued.

Documentation
Informed consent must be obtained from the parent and documented in the patient’s record prior to administration of nitrous oxide/oxygen. An explanation of the sedation technique proposed and of any alternative methods of pain and anxiety control must be given. In addition to the procedure, the child and their parent or guardian must be given clear and comprehensive pre- and postoperative instructions in writing. The practitioner should provide a fail-safe system that the parent regarding pretreatment dietary precautions, if indicated. In addition, the patient’s record should include information about the use of nitrous oxide/oxygen analgesia/anxiolytic, nitrous oxide dosage (i.e., percent nitrous oxide/oxygen and/or flow rate), duration of nitrous oxide/oxygen administration, and post-treatment oxygenation procedure.

The record should also include documentation of the patient’s response to the use of nitrous oxide and the postoperative instructions. Any adverse effects of the procedure should be documented. Facilities/personnel/equipment
All newly installed facilities for delivery of nitrous oxide/oxygen must be checked and maintained on a regularly scheduled basis.

Occupational safety
In the medical literature, long-term adverse effects of nitrous oxide used as a general anesthetic has been linked to bone marrow depression and the development of aplastic anemia. Nitrous oxide can lead to nitrous oxide/oxygen narcosis, which is the sedative effect and suppression of the EEG. This state is not so strong as to prevent the patient from responding normally to the environment.

The full list of references is available from the publisher.

References

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