



Workflow in Wroclaw - report about ESDE meeting 2016

by Marc Apap

About 70 persons from 14 countries joined together on the 17&18th of June 2016 in the Polish city of Wroclaw to listen to 19 speakers from 8 countries, debating about a very fashionable subject, the workflow in dental practice

Each of the speakers tempted, in his field of professional activities, to match to the proposed subject. Every of them did it thoroughly, demonstrating a high level of competence in their speciality. We could learn then, in several aspects of dentistry, how each one optimises his own workflow.

What is workflow about?

Confucius said: « The travel holds more importance than the destination ». As ergonomists, this formula pretty well resumes our concern. In dental practice, the destination represents the treatment given to the patient. The travel to reach this aim is the workflow.

At the university one often can hear: “Only the end result matters”. Since the job is well done, the professors do not take care about duration, cost, fatigue and efforts needed to fill a cavity, clean and prepare a root canal, put an implant or a crown, as if it would be normal, to suffer for the patients and to accept future musculoskeletal disorders. And the dentists trained in this way often fall into the same type of thinking.

The ergonomists, on the contrary, deal with protocols, processes, choice of materials and products, equipment and how to use them to optimize their performances, avoid waste of time, act more comfortably for the patients, but also for the whole care team, in order to preserve its physical and mental health. Destination and travel are in fact equally important.

The workflow refers to a series of actions leading to a professional service. When you open your practice, workflow is of paramount importance because it leads to your patients' satisfaction, the profitability of your business, the quality of your life and the one of those who work with you.

The workflow is a result of multiple interactions between human beings and tools.

Human elements are the dental team, the office manager and the secretary, external professionals (i.e. laboratory technicians, other health professionals, psychologists, public and private insurances) and the patients.

Tool elements represent the working environment, the equipment, devices and products used to perform tasks in relation with the activities of the dental team.

A successful workflow takes into account a number of aspects, a few of them been discussed during this meeting.

General concepts

- Workflow should be simple. No special skills should be needed to perform the workflow itself, which should describe work task in small steps (*Joerg Vollstedt*).
- 6 steps should be defined: who, what, how, when, where, whereby (*Jens Christian Katzschner*)
- Workflow should be predictable and thus, lead to pre-described goals (*An Nguyen*).
- Workflow should not invite you to make mistakes (*Rolf de Ruijter*)
- Workflow should not confuse the user (*Andreas M. Heinecke*).

Human factors

Management

Structures with many professionals need a manager or a leader, who, as an orchestra conductor, coordinates activities, motivates, encourages, reduces personal and interpersonal emotional strains and makes a sense to a collective project with the team members and the external actors (*Joerg Vollstedt, Christina Erbe*). The manager has to boost quality, safety and growth of the business (*Rolf de Ruijter*). According to the psychologist *Katarzyna Świtalska*, the manager should be an innovator, someone who inspires. As a leader, he (or she) should be independent, always finding time for the benefit of any member of the team. Weekly working meetings are organized between the team members to coordinate multi-disciplinary treatments in progress, and solve organizational questions (*Joerg Vollstedt*). Each one has to know what to do and must do it well (*Agnieszka Maziarz-Lipka, Lance Rucker*).

A good manager must thank and appreciate the members of his team for their efforts and implication. Each positive action directed towards somebody is not only beneficial for this person, but also for its initiator. Management becomes easier when feeling happy (*Agnieszka Maziarz-Lipka*).

Patient-practitioner and interdisciplinary relations

To help patient understand and adhere to a treatment plan, the dentist can provide him written documents or videos explaining practical solutions to solve his problem (*Joerg Vollstedt*). A well prepared protocol in 3 steps (conversation, visualization, written information) helps save time (*Jens Christian Katzschner*). Digital medical imaging provides an aid in the diagnosis and communication between several specialists (*Osku Sundqvist, Planmeca*).

For *An Nguyen*, a young dentist multimedia enthusiast, the patient-practitioner relation can be assimilated to a movie scenario: the setup, the conflict and the plot. This dramaturgy makes the treatment attractive for the patient and thus attractive for the dentist as an entrepreneur. Never forget that specific processes are perceived in different side of the brain corresponding with other cognitive mechanisms. « Everything we see is a perspective, not the truth » he says. To perform his activity, mainly focused on aesthetic dentistry, he build a studio in his practice to make pictures and movies of the patients' smiles, so as to show them their initial state and pre-visualise its future changes (Digital Smile Design). Computer software allows to elaborate the ideal end result which as well, serves as a precious tool to exchange information with the laboratory technician.

To make children accept possibly unpleasant treatments and decrease their fear, the young Russian pedodontist *Antonina Getsman* applies a 3 steps technique : « Tell, Show, Do ».

Universal and clearly defined protocols help to rationalise periodontal treatments according to the risk level of each patient. This is **the proposal of *Marta Czownicka***, a Polish periodontist.. The patients needing special hygiene care, receive personalised documents showing on a chart the interdental brushes references they must use according to the width of their interdental spaces.

For the patients with troubles coming from bad occlusion, *Christina Erbe* and coll. from University Clinic Mainz (Germany), developed a standardized approach where several specialists of different disciplines discuss together. Time is also spent for guided patient discussions with these specialists, which propose special home exercises when necessary (for instance : holding a spatula between teeth, protrude lower jaw to the front, sucking a cherry 5 minutes every hour and other face movements to relax masticatory muscles).

Tools

General equipment

Luciano Mechesi (a-dec) explained the general concept behind the equipment proposed by his company: dental chair, unit, tablet in rear position for the assistant, cabinetry. Every furniture is conceived in order to fit with most people expectations, making it easy to use them, and optimise efficiency of the dental team protagonists.

Eliei Soares Orenha from Bauru School of Dentistry, University of São Paulo (Brazil) and his team compared ergonomic characteristics of several dental stools, chairs, units and operative lights according to the ISO specifications on one hand, and the Ergonomic requirements proposed by ESDE. It appears that most of the equipment, though complying with ISO standards, are unsatisfactory from the point of view of the ESDE recommendations. Great and continuous efforts need to be taken to make that change or at least improved.

Loupes

Everyone agrees to say that surgical loupes improve the quality of the treatments performed in the mouth. They also contribute to preserve operator's health, who stays in a more upright position and tires less. However, when badly adapted, they compromise the workflow by significantly reducing the dentist's efficiency. In a recent study, **Lance Rucker**, professor at the University of British Columbia (Canada), showed that 82 % the loupes were entirely out of optical alignment. What does that mean in practice? When you approach an instrument in the field of view of badly adjusted loupes, the object appears to be higher or lower than in its actual position. This discrepancy, due to a misalignment of the optics with your vision axis, disturbs and slows down your movements due of a lack of precision. It is important to take this aspect into account when choosing loupes. Their trademark does not necessarily make the difference. Only their aptitude to correctly fit with your physical specificities must decide for you. The flip-up style loupes with a vertical adjustment of the optical bloc allow more opportunities to be corrected when initially poorly aligned. Those with trough the lenses optics (TTL), which position is fixed and determined in factory, have no chance to be corrected to improve their fitting if this is not previously the case. Lance Rucker proposes a simple method with a coloured graph to quickly verify if the loupes you wear are correctly aligned or not.

Microscope

The operating microscope has become essential in endodontics and in pedodontic practice too (**Antonina Getsman**). This tool improves the quality of treatments, while allowing more comfortable and physiologic working postures. The procedures are speeded up and more efficient, provided that the nurse actively assists the dentist. She must be well trained and have an optimal working environment at her disposal. The proper placement of an extra screen to clearly see the operative field permits her to be one step ahead and give everything the dentist needs at the right time. The choice of small equipment, use of tubs containing all the necessary products and pre-prepared trays with sterile material immediately available clearly improve the workflow (**Bartłomiej Karaś**). **Piotr Skrzyszewski**, developed a cabinet with mobile shelving situated at the right hand of the assistant to store everything she needs during the treatment. His operatory is rationally designed in order not to waste time between the chairside procedure and the desk discussion with the patient to which he shows the pictures of his tooth on a large screen.

Informatics

Informatics are omnipresent in the dental office. The use of computers and other devices for entering and consulting data is growing for a number of new applications.

The dialogue with the machine should not allow for any misunderstanding. **Andreas M. Heinecke**, professor of informatics and communication at the Westfaelische Hochschule, University of applied sciences (Germany) showed the audience with very amusing examples, how badly developed interfaces lead to confusion, irritation, and gross errors because the designers of these systems ignore some basic rules of communication. Workflow demands clear interfaces complying international standards for usability.

According to **Jens Christian Katschner**, workflow should use clear to see (image based) and understandable jobs (bookshelf like), with easy software solutions clearly recognizable.

The agenda planning cannot be any more imagined without a computer, especially in clinics with several operative rooms and numerous practitioners. Computers are useful to input data like questionnaire assessments, information from X-rays at the right time on the right place (**Christina Erbe**). Imaging software are more and more employed and integrated in the equipment as **Osku Sundqvist** from the Finish company Planmeca showed.

In prosthetics, the use of digital photography software that analyse the smile characteristics, previsualise the ideal position and shape of the teeth allow to predict the end result in an easier and faster way to start the treatment (Digital Smile Design).

Internet

Internet is useful for the patients to get information about the dental office, via its website (**Joerg Vollstedt**). It allows to connect at any moment anyway in the world with external partners as laboratory technicians to exchange necessary details for prosthesis production (**An Nguyen**).

Physical aspects

Even if this subject is not directly related to workflow, it is so on the long term. A majority of dental care workers suffer from Work-Related Musculoskeletal Disorders (WRMSDs). If better postures allow to be more efficient at chairside and prevent future troubles responsible for partial disability or premature retirement, apparently a very few dentists are conscious of that risk. If one never learned how to use a bur with indirect vision, drilling an upper molar will soon be, with age, more and more tiring. This can lead to a drop in productivity and decreased treatment quality.

To correlate dentists complains with a tangible reality, **Martin Kapitán** from the Charles University and University Hospital Hradec Králové (Czech Republic) carried out a study on 23 practitioners, using an original system, the Spinal Mouse ®. This kind of 3D computer mouse is moved all along the spine of the subjects, to record different data in relation to musculoskeletal troubles. His results, though preliminary, clearly prove a significant correlation between the subjective complains intensity and some objective data obtained with the device.

Good practices help preserve one's health during the professional life, but also after retirement. **Vilija Berlin** from Vilnius University presented a study performed on 413 retired Lithuanian dentists. Though a little bit more than half of the respondents declare to be in good health, many dentists still suffer from occupational physical health disorders. "Doing sports should be the way to avoid the symptoms, be healthy and enjoy life up to the finishing of dentist carrier and after" Berlin declares.

The earlier mentioned microscope does not necessarily protect from musculoskeletal troubles: the static positions it may impose are far from ideal. In a study carried on 198 Polish dentists working with a microscope, about 50% of them declare suffering or having suffered from

MSD. **Piotr Wucek**, an endodontist in Lotz (PL) showed that during a root canal treatment the highest magnifications (with very static postures) are needed during less than one third of the procedure. The rest of the time, it is quite possible to work with less than 5 x magnification or even no magnification at all to allow more dynamic positions.

In a study on 51 dentists, **Daniela Ohlendorf** from Goethe University in Frankfurt (D) measured the deviation of several body parts from neutral postures during one working day in order to correlate these data with the subjects complaints related to MSDs.

Her recommendations are clear:

- Improve the ergonomic job design to ensure dental work in neutral body positions.
- Multiply breaks during the day.
- Start training ergonomics as soon as possible in the curriculum of dentistry.
- Workflow should be aimed at reducing vulnerability to diseases of the musculoskeletal system with increasing age.

What for the future?

The title of our vice-president Rolf de Ruijters speech was “Ergonomics meet workflow”.. Pure ergonomics are generally not so much appreciated by the dentists which consider them boring, or at best, too demanding. “Stay upright!”, “Correctly take this tool!” remind you your mother’s orders when you were 5 or 6 years old. Improving workflow is rather more motivating and in fact, a daily task. So, as Mr Jourdain in “Le Bourgeois Gentilhomme”, the theatre piece of Molière, who discovered he was speaking in prose like if this were extraordinary, every dentist practices ergonomics without knowing it. When one tries to improve his relations with his patients and employees, he/she should keep a comfortable working posture or choose the best equipment, tools and products in his office, he deals with ergonomics.

In Wroclaw this year, the participants of the congress discovered a small insight of what can be done to improve workflow. Many other aspects of this quest have to be defined and described by several people: ergonomists, psychologists, dental researchers, hygienists, nurses, and overall, industrials which propose their materials but could also collaborate with us to meet our requirements as dental practitioners.