

GOCE DELCEV UNIVERSITY, STIP
FACULTY OF MEDICAL SCIENCES

First International Students' Symposium of Faculty of Medical
Sciences

CELEBRATING ACHIEVEMENTS IN MEDICINE, PROMOTING
HEALTH AND SHARING KNOWLEDGE

STIP, 20 APRIL 2016
MULTIMEDIA CENTRE – GOCE DELCEV UNIVERSITY, STIP

EDITOR IN CHIEF

Assoc. Prof. Tatjana Ruskovska, Goce Delchev University, Stip

SCIENTIFIC BOARD

Prof. Ruben Gulaboski, Goce Delchev University, Stip

Assoc. Prof. Darko Bosnakovski, Goce Delchev University, Stip

Prof. Milica Zdravkova, Goce Delchev University, Stip

Prof. Emilija Janevik Ivanovska, Goce Delchev University, Stip

Ass. Prof. Kiro Papakova, Goce Delchev University, Stip

Assoc. Prof. Bistra Angelovska, Goce Delchev University, Stip

Assoc. Prof. Ceca Dimova, Goce Delchev University, Stip

Assoc. Prof. Ivona Kovacevska, Goce Delchev University, Stip

Assoc. Prof. Vaso Talecki, Goce Delchev University, Stip

Ass. Prof. Darinka Gjorgjeva, Asikova Goce Delchev University, Stip

Ass. Prof. Katarina Smilkov, Goce Delchev University, Stip

Ass. Prof. Nevenka Velikova, Goce Delchev University, Stip

Ass. Prof. Velo Markovski, Goce Delchev University, Stip

Ass. Viktorija Maksimova, Goce Delchev University, Stip

Ass. Marija Sterjova, Goce Delchev University, Stip

Ass. Micko Milev, Goce Delchev University, Stip

Ass. Marija Karakolevska Ilieva, Goce Delchev University, Stip

Ass. Elena Joveva, Goce Delchev University, Stip

Teoh. Kiri Mitevski, Goce Delchev University, Stip

Prof. Doneva Miglena, Faculty of Pharmacy, Medical University, Department of Organization and Economics of Pharmacy, Sofia, Bulgaria

Ass. Prof. Mihnea I. Nicolescu, "Carol Davila" University of Medicine and Pharmacy, Cytology and Histology Department, Bucharest, Romania
Research assistant, "Victor Babeş" National Institute of Pathology, Radiobiology Laboratory, Bucharest

Dr. Rich Wunderink, Northwestern Memorial Hospital, Chicago, US

Dr. David Burandt, Department of Orthopaedics in Lexington Clinic, Lexington, Kentucky

Student Andonela Janeva, Goce Delchev University, Stip

Student Natasha Arcova, Goce Delchev University, Stip

Student Ana Marija Taceva, Goce Delchev University, Stip

ORGANISATION BOARD

Aleksandra Toneva

Ana Marija Taceva

Andonela Janeva

Marija Koleva

Mario Gjuffeckl

Mila Majhoseva

Milica Janeva

Mihail Aleksandrov

Natasha Arcova

Spase Stojanov

Tanja Janeva

**INTERNATIONAL STUDENTS' SYMPOSIUM OF FACULTY OF MEDICAL
SCIENCES**

**"Celebrating achievements in medicine, promoting health and sharing
knowledge"**

APRIL 20, 2018 - STIP

POSTER PRESENTATIONS

1. "Incidence of large intestinal carcinoma in patients from Clinical Hospital - Stip for a period of 2010-2015"

Author: Nikola Stojiljkovic; Co-authors: Gjorgji Shumanov and Slobodan Rogac

2. "Oral cavity changes after radiotherapy"

Author: Nikolina Kochovska; Co-author: Darko Kochovski

3. "Doppler ultrasound: noninvasive way of imaging the blood flow"

Author: Aleksandra Ristova – Stojanova; Co-author: Oliver Ristov

4. "Comparison of dissolution test for metronidazole tablets in International and American Pharmacopoeia"

Author: Violeta Koneva; Co-authors: Biljana Gjorgjeska and Sofija Petkovska

5. "Gestational diabetes, experience of the Clinic for Gynecology in Skopje in the period 2013-2015"

Author: Vesna Mladenovska; Co-authors: Biljana Gjorgjeska and Sofija Petkovska

6. "Acupuncture treatment for lumbar disc herniation"

Author: Martin Karovski; Co-authors: Jihe Zhu and Blagica Arsovska

7. "Acupuncture points in treatment of adolescent depression"

Author: Angela Angelovska; Co-authors: Jihe Zhu and Blagica Arsovska

8. "High performance polymers in dental laboratory"

Author: Daniela Mickovska; Co-authors: Ivona Kovacevska, Natasha Denkova and Pavle Apostoloski

9. "Passive suicidal ideation as a risk factor for suicide among cancer patients"

Author: Dijana Miloseva; Co-authors: Lence Miloseva and Dajana Bopkovska

10. "Approximal margin adaptation on class II – posterior interproximal cavity restored with open and closed sandwich technique"

Author: Jane Nacevski; Co-authors: Hristijan Dimoski, Stefan Kitanovski, Ivona Kovacevska, Natasha Denkova and Kiril Mitevski

11. "Anesthetic buffering: new advances for use in dentistry"

Author: Ivana Bojchovska; Co-authors: Darko Kochovski, Sandra Atanasova and Mihajlo Petrovski

12. "Development of an electrochemical method for estimation of the antioxidative capacity of syringic and ferulic acid with ABTS as a redox mediator"

Author: Mihail Aleksandrov; Co-

Anesthetic buffering: new advances for use in dentistry

Bojchovska Ivana, Kochovski Darko, Atanasova Sandra, Petrovski Mihajlo
Faculty of Medical Sciences, Goce Delcev University, Stip

Local anesthetics are chemical substances given infiltrative or at the surface, which temporarily block the implementation of pulses through nerve fibers. Thus they cause anesthesia of the tissue that is innervated by that nerve without damaging of the nerve. The aim of this study was to evaluate the role and benefits of local anesthetic buffering. Patients often complain of a burning sensation and burning in the area of anesthetic deposition due to the acidity of the anesthetic solution. With local anaesthetic buffering these negative effects are removed. Latest advances in technology allow mixing of solutions for local anesthesia with alkaline substances immediately before injection of anesthetic, making the anesthetic's onset quicker, more reliable, and more comfortable for the patient. The buffering process uses a sodium bicarbonate solution that is mixed with the cartridge of local anesthetic. The interaction between the NaHCO_3 and HCL in the local anesthetic creates H_2O and CO_2 .

For buffering, Onpharma's Onset Mixing Pen is most commonly used. The pen has cartridges of Onpharma bicarbonate solution and can be used to accurately buffer dental anesthesia. The process of buffering takes 5 seconds chairside and should be done immediately before the placement of a dental syringe and injection of the anesthesia.

As a conclusion we can noted that buffering of the local anesthesia can have a lot of advantages in everyday dental practice for reducing the pain and discomfort caused by the injection process.

Keywords: local anesthetics, anesthetic buffering, sodium bicarbonate solution.