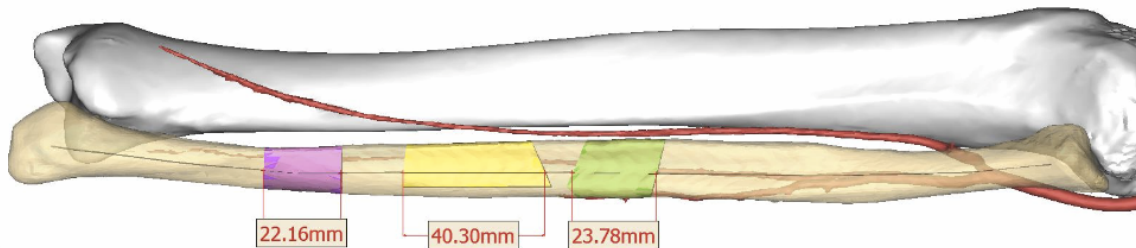
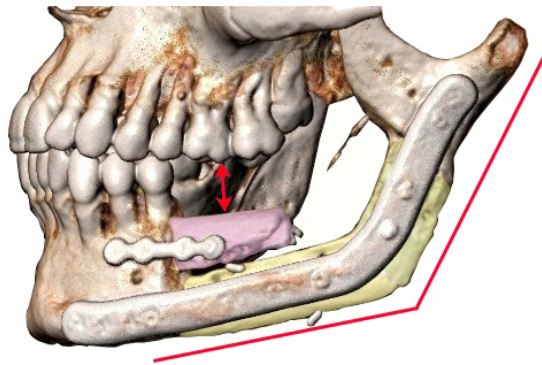


# Journal of Diagnostics and Treatment of Oral and Maxillofacial Pathology

9 2024



The cover images indicate the key direction of the journal and highlight an article titled “The ‘Beveled One-and-a-Half-Barrel’ Fibula Transplant with Virtual Surgical Planning and CT-Guided Implant Surgery for Prosthetic Rehabilitation in Posterior Mandible Defects: A Pictorial Essay” by Olindo MASSARELLI and Silvio Mario MELONI. The article was published in Volume 6, Issue 3.

This is a monthly open access and peer-reviewed journal for oral and maxillofacial surgeons. The journal made the transition from a print and an online version to an online-only version on January 1, 2022. The Editor in Chief is Oleksii Tymofiev, Kyiv, Ukraine.



# TANTUM VERDE®

QUICK RELIEF FROM PAIN  
AND INFLAMMATION IN THE  
MOUTH AND THROAT<sup>1</sup>

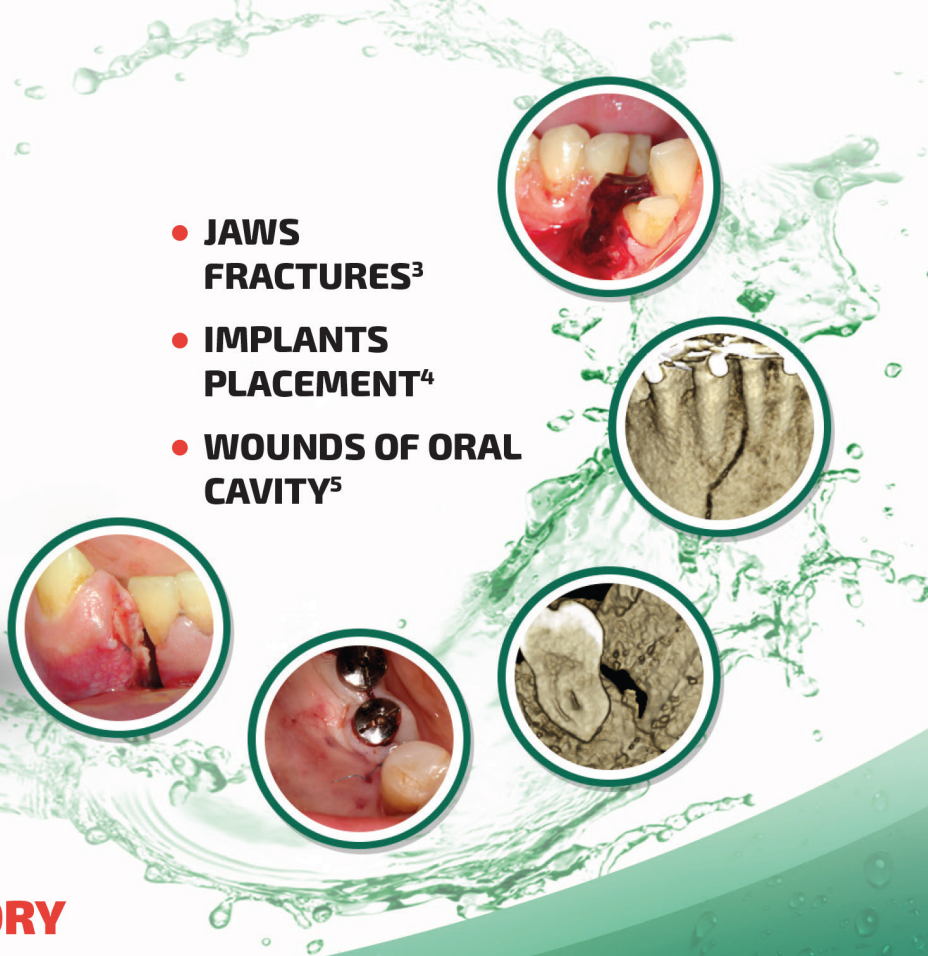
**AN INTEGRAL COMPONENT OF THE TREATMENT  
OF PAIN AND INFLAMMATION IN THE ORAL CAVITY  
IN 60 COUNTRIES WORLDWIDE!<sup>2</sup>**



Reg. № UA/3920/01/01

**LOCAL ANESTHETIC  
AND ANTI-INFLAMMATORY  
EFFECT<sup>1</sup>**

- **JAWS FRACTURES<sup>3</sup>**
- **IMPLANTS PLACEMENT<sup>4</sup>**
- **WOUNDS OF ORAL CAVITY<sup>5</sup>**



#### SUMMARY OF PRODUCT CHARACTERISTICS

**NAME OF THE MEDICINAL PRODUCT.** Tantum Verde 0.15% mouthwash. **QUALITATIVE AND QUANTITATIVE COMPOSITION.** Each 100 ml contains: active ingredient: benzydamine hydrochloride 0.15 g (equivalent to 0.134 g of benzydamine). **Therapeutic indications.** Treatment of symptoms such as irritation/inflammation including those associated with pain in the oropharyngeal cavity (e.g. gingivitis, stomatitis and pharyngitis), including those resulting from conservative or extractive dental therapy. **Posology and method of administration.** Pour 15 ml of Tantum Verde mouthwash into the measuring cup, 2-3 times per day, using it either at full concentration or diluted. If diluted, add 15 ml of water to the graduated cup. Do not exceed the recommended dosage. **Contraindications.** Hypersensitivity to benzydamine or to any of the excipient. **PHARMACOLOGICAL PROPERTIES. Pharmacodynamic properties.** Pharmacotherapeutic group: Stomatologic drugs: other agents for local oral treatment, ATC code: A01AD02. Clinical studies demonstrate that benzydamine is effective in relieving suffering from localised irritation of the mouth and pharynx. In addition, benzydamine possesses a moderate local anaesthetic effect. **Pharmacokinetic properties. Absorption.** Absorption through the oropharyngeal mucosa is demonstrated by the presence of measurable quantities of benzydamine in human plasma. These levels are insufficient to produce systemic effects. **Distribution.** When applied locally, benzydamine has been shown to accumulate in inflamed tissues where it reaches effective concentrations because of its capacity to penetrate the epithelial lining.

**Information about medicines. Information for health care professionals for use in professional activities.**

1. Інструкція для медичного застосування лікарського засобу Тантум Верде®, розчин для ротової порожнини, РПН № UA/3920/01/01, затверджено Наказом Міністерства охорони здоров'я України № 636 від 01.10.2015.

2. <http://www.angelini-pharma.com/wps/wcm/connect/com/home/Angelini+Pharma+in+the+world/>

3. Тимофеев А.А. и др. "Особенности гигиены полости рта для профилактики воспалительных осложнений при переломах нижней челюсти". Современная стоматология 2015;1(75):52-8.

4, 4.5. Tymofiejew O.O. et al "Prevention of inflammatory complications upon surgeries in maxillofacial region". J Diagn Treat Oral Maxillofac Pathol. 2017;1:105-12.

Clinical and CT images are courtesy of: Ievgen Fesenko (Department of Oral & Maxillofacial Surgery, PHEI "Kyiv Medical University", Kyiv, Ukraine), Oleg Mastakov ("SCIEDECE—Scientific Center of Dentistry & Ultrasound Surgery" Kyiv, Ukraine)



04119, Kiev, Melnikova str. 83D, of. 404.  
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Fax: (044) 538-01-27



# About the Journal

SEPTEMBER 2024 • VOLUME 8 • ISSUE 9  
www.djournal.org

## Official Title

*Journal of Diagnostics and Treatment of Oral and Maxillofacial Pathology*

## Official Title in Ukrainian

Журнал діагностики та лікування оральної і щелепно-лицевої патології

## Standard Abbreviation: ISO 4

*J. Diagn. Treat. Oral Maxillofac. Pathol.*

## Acronym

JDTOMP

## International Standard Serial Number (ISSN)

ISSN 2522-1965 (online)

## Aims & Scope

This is a monthly open access and peer-reviewed oral and maxillofacial surgeons. The journal is focused on trauma, microvascular and jaw reconstructive surgery, dental implants, salivary gland tumors/diseases, TMJ lesions, virtual surgical planning, implementation of ultrasonography into the practice of oral and maxillofacial surgeons.

## Editorial Board (EB) Composition

- EB shows significant geographic diversity representing 34 opinion leaders from 14 countries: Brazil, Canada, Colombia, Greece, Hong Kong (SAR, China), India, Israel, Italy, Slovak Republic, Spain, Ukraine, United Arab Emirates, United Kingdom, and United States.
- The majority of the EB Members have a discernible publication history in Scopus, Web of Science, and journals with a high impact factor.
- The publication records of all EB members are consistent with the stated scope and published content of the journal.
- The journal has several full-time professional editors.
- Gender distribution of the editors: 11.76% women (4 persons), 88.24% men (30 persons), 0% non-binary/other, and 0% prefer not to disclose.

## Frequency

12 issues a year (from January 2020)

## Publishing Model

The *Journal of Diagnostics and Treatment of Oral and Maxillofacial Pathology* is a fully online-only open access and peer-reviewed publication.

## Types of Peer Review

The journal employs “double blind” and open reviewing.

## Article Publishing Charge (APC)

The APC in this journal is 500 Euro (\$550 USD) and 250 Euro (\$275 USD)(excluding taxes) depending on the article's type. Details at website: [www.djournal.org](http://www.djournal.org).

## Types of Articles Currently Published by the Journal

Editorials/Guest Editorials/Post Scriptum Editorials, Images,

Case Reports/Case Series, Original Articles, Review Articles, Discussions, Paper Scans (*synonyms*: Review of Articles, Literature Scan), Book Scans (*synonym*: Book Reviews), Letters to the Editor (*synonym*: Letters), and Viewpoints.

## State Registration in the Ministry of Justice of Ukraine

Registration: Jul 28, 2016 (Certificate: KB № 22251-12151 P)

Re-registration: May 21, 2019 (Certificate: KB № 23999-13839 ПП)

Re-registration: Aug 10, 2021 (Certificate: KB № 24951-14891 ПП).

## State Registration in the National Council of Television and Radio Broadcasting of Ukraine

- The journal is registered as print media (Decision of 2024, April 11, No. 1225). The identifier of print media R30-04318.
- The journal is registered as online media (Decision of 2024, April 25, No. 1454). The identifier of online media R40-04708.

## Journal is Included in

Encyclopedia of Modern Ukraine, Google Scholar, National Repository of Academic Texts, Register of Scientific Publications of Ukraine (also known as Ukrainian Scientific Periodicals or Register of Scientific Professional Publications of Ukraine), ResearchGate, Scilit, and Vernadsky National Library of Ukraine

## Co-Founders

1. Shupyk National Healthcare University of Ukraine (formerly known as Shupyk National Medical Academy of Postgraduate Education).
2. Private Higher Educational Establishment “Kyiv Medical University.”
3. OMF Publishing, Limited Liability Company.

## Publisher

OMF Publishing, LLC is an academic publishing company.

Address: 13-A Simferopolska Street, office 121, Kyiv 02096, Ukraine.

E-mail: [office@omfpublishing.com](mailto:office@omfpublishing.com).

Website: [www.omfpublishing.com](http://www.omfpublishing.com).

## Crossref Membership

OMF Publishing, LLC is a member of Publishers International Linking Association, Inc. which doing business as a Crossref. OMF Publishing's active membership: From February 2017 to present.

## Digital Object Identifier (DOI) of the Journal

10.23999/j.dtmp

## Official Journal of the Association

Ukrainian Association for Maxillofacial and Oral Surgeons

## Ukrainian Association for Maxillofacial and Oral Surgeons (UAMOS)

Address: 4-A Profesora Pidvysotskoho Street, Kyiv 01103, Ukraine. Tel., fax: +38 044 528 35 17.

Website: [www.uamos.org](http://www.uamos.org).

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SEPTEMBER 2024 • VOLUME 8 • ISSUE 9  
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# TANTUM VERDE®

INFORMATION LEAFLET  
for the medicinal product

## **Composition:**

*active substance:* **benzydamine hydrochloride;**

100 mL of solution contain benzydamine hydrochloride 0.15 g;

*excipients:* ethanol 96%, glycerol, methyl parahydroxybenzoate (E 218), flavor (menthol), saccharin, sodium hydrocarbonate, Polysorbate 20, Quinoline Yellow (E 104), Patent Blue V (E 131), purified water.

**Dosage form.** Oromucosal solution.

*Basic physical and chemical properties:* a clear green liquid with a typical mint flavor.

**Pharmacotherapeutic group.** Dental preparations. Other agents for local oral treatment.

ATC code: A01A D02.

## **Pharmacological properties.**

### *Pharmacodynamics.*

Benzydamine is a non-steroidal anti-inflammatory drug (NSAID) with analgesic and antiexudative properties.

Clinical studies have shown that benzydamine is effective in the relief of symptoms accompanying localized irritation conditions of the oral cavity and pharynx. Moreover, benzydamine has anti-inflammatory and local analgesic properties, and also exerts a local anesthetic effect on the oral mucosa.

### *Pharmacokinetics.*

Absorption through the oral and pharyngeal mucosa has been proven by the presence of measurable quantities of benzydamine in human plasma. However, they are insufficient to produce any systemic pharmacological effect. The excretion occurs mainly in urine, mostly as inactive metabolites or conjugated compounds.

When applied locally, benzydamine has been shown to cumulate in inflamed tissues in an effective concentration

due to its ability to permeate through the mucous membrane.

## **Clinical particulars.**

### **Indications.**

Symptomatic treatment of oropharyngeal irritation and inflammation; to relieve pain caused by gingivitis, stomatitis, pharyngitis; in dentistry after tooth extraction or as a preventive measure.

### **Contraindications.**

Hypersensitivity to the active substance or to any other ingredients of the product.

### **Interaction with other medicinal products and other types of interaction.**

No drug interaction studies have been performed.

### **Warnings and precautions.**

If sensitivity develops with long-term use, the treatment should be discontinued and a doctor should be consulted to get appropriate treatment.

In some patients, buccal/pharyngeal ulceration may be caused by severe pathological processes. Therefore, the patients, whose symptoms worsen or do not improve within 3 days or who appear feverish or develop other symptoms, should seek advice of a physician or a dentist, as appropriate.

Benzydamine is not recommended for use in patients hypersensitive to acetylsalicylic acid or other non-steroidal anti-inflammatory drugs (NSAIDs).

The product can trigger bronchospasm in patients suffering from or with a history of asthma. Such patients should be warned of this.

For athletes: the use of medicinal products containing ethyl alcohol might result in positive antidoping tests considering the limits established by some sports federations.

#### *Use during pregnancy or breast-feeding*

No adequate data are currently available on the use of benzydamine in pregnant and breastfeeding women. Excretion of the product into breast milk has not been studied. The findings of animal studies are insufficient to make any conclusions about the effects of this product during pregnancy and lactation.

The potential risk for humans is unknown.

TANTUM VERDE should not be used during pregnancy or breast-feeding.

#### *Effects on reaction time when driving or using machines*

When used in recommended doses, the product does not produce any effect on the ability to drive and operate machinery.

#### **Method of administration and doses.**

Pour 15 mL of TANTUM VERDE solution from the bottle into the measuring cup and gargle with undiluted or diluted product (15 mL of the measured solution can be diluted with 15 mL of water). Gargle 2 or 3 times daily. Do not exceed the recommended dose.

#### *Children.*

The product should not be used in children under 12 years due to a possibility of ingestion of the solution when gargling.

#### **Overdosage.**

No overdose has been reported with benzydamine when used locally. However, it is known that benzydamine, when ingested in high doses (hundreds times higher than those possible with this dosage form), especially in children, can cause agitation, convulsions, tremor, nausea, increased sweating, ataxia, and vomiting. Such acute overdose requires immediate gastric lavage, treatment of fluid/salt imbalance, symptomatic treatment, and adequate hydration.

#### **Adverse reactions.**

Within each frequency group, the undesirable effects are presented in order of their decreasing seriousness.

Adverse reactions are classified according to their frequency: very common ( $\geq 1/10$ ); common ( $\geq 1/100$  to  $<1/10$ ); uncommon ( $\geq 1/1,000$  to  $<1/100$ ); rare ( $\geq 1/10,000$  to  $<1/1,000$ ); very rare ( $<1/10,000$ ); frequency unknown (cannot be estimated from the available data).

*Gastrointestinal disorders:* rare – burning mouth, dry mouth; *unknown* – oral hypesthesia, nausea, vomiting, tongue edema and discoloration, dysgeusia.

*Immune system disorders:* rare – hypersensitivity reaction, *unknown* – anaphylactic reaction.

*Respiratory, thoracic and mediastinal disorders:* very rare – laryngospasm; *unknown* – bronchospasm.

*Skin and subcutaneous tissue disorders:* uncommon – photosensitivity; very rare – angioedema; *unknown* – rash, pruritus, urticaria.

*Nervous system disorders:* *unknown* – dizziness, headache.

TANTUM VERDE contains methyl parahydroxybenzoate, which can cause allergic reactions (including delayed-type reactions).

**Shelf life.** 4 years.

#### **Storage conditions.**

Do not store above 25°C. Keep out of reach of children.

#### **Packaging.**

120 mL of solution in a bottle with a measuring cup; 1 bottle per cardboard box.

#### **Dispensing category.**

Over-the-counter medicinal product.

#### **Manufacturer.**

Aziende Chimiche Riunite Angelini Francesco A.C.R.A.F. S.p.A., Italy.

Location of the manufacturer and its business address.  
Via Vecchia del Pinocchio, 22 – 60100 Ancona (AN), Italy.

#### **Date of the last revision of the text.**

September 26, 2018.

Information leaflet is

**APPROVED** by

Order of the

**Ministry of Health of Ukraine**


No. 636 dated 01.10.2015

**Registration Certificate**

No. UA/3920/01/01

# State Registration

SEPTEMBER 2024 • VOLUME 8 • ISSUE 9  
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**Міністерство юстиції України**  
**СВІДОЦТВО**  
**про державну реєстрацію**  
**друкованого засобу масової інформації**

Серія КВ № 24951-14891 ПП

«Журнал діагностики та лікування оральної і щелепно-лицевої патології»  
(назва видання державною мовою)  
«Journal of Diagnostics and Treatment of Oral and Maxillofacial Pathology»  
(назва видання іншою мовою (мовами))

Вид видання журнал  
(газета, журнал, бюлетень, збірник, альманах, календар, дайджест)

Статус видання вітчизняне  
(вітчизняне, спільне)

Мова (мови) видання змішаними мовами: українська, англійська

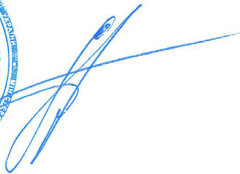
Вид видання за цільовим призначенням наукове, науково-виробниче  
(громадсько-політичне, наукове, навчальне, інформаційне, рекламне (понад 40 відсотків обсягу одного номера – реклама), еротичне тощо)

Обсяг, періодичність 23,1 ум. друк. арк., формат А4 (210x297мм), 1 раз на місяць


Сфера розповсюдження та категорія читачів загальнодержавна, зарубіжна  
лікарі-стоматологи-хірурги; лікарі ультразвукової діагностики, лікарі-рентгенологи, лікарі-патологоанатоми, студенти, лікарі-інтерни, слухачі, аспіранти, докторанти, наукові, науково-педагогічні та педагогічні працівники закладів вищої освіти та наукових установ

Засновник (співзасновники) «ОМФ ПАБЛІШІНГ» (код за ЄДРПОУ 40493077)  
Национальний університет охорони здоров'я України імені П.Л. Шупика (код за ЄДРПОУ 01896702), Приватний вищий навчальний заклад «Київський медичний університет» (код за ЄДРПОУ 16478809), Товариство з обмеженою відповідальністю

Програмні цілі (основні принципи) лікування в хірургічній стоматології та щелепно-лицевій  
або тематична спрямованість хірургії

Перший заступник Міністра  **Євгеній ГОРОВЕЦЬ**

10.08.2021  
(дата реєстрації)



**FIGURE 1.** Certificate of State Re-Registration of the Print Mass Media (journal) in the Ministry of Justice of Ukraine as of 2021. The *Journal* was registered for the first time in 2016 under the title *Diagnostics and Treatment of Oral and Maxillofacial Pathology*. The next re-registration took place in 2019.

# State Registration

SEPTEMBER 2024 • VOLUME 8 • ISSUE 9  
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## НАЦІОНАЛЬНА РАДА УКРАЇНИ З ПИТАНЬ ТЕЛЕБАЧЕННЯ І РАДІОМОВЛЕННЯ

### РІШЕННЯ № 1454

25.04.2024

м. Київ

Протокол № 14

Про заяву ТОВ «ОМФ ПАБЛІШІНГ»,  
м. Київ, щодо реєстрації суб'єкта у сфері  
онлайн-медіа

Розглянувши заяву ТОВАРИСТВА З ОБМЕЖЕНОЮ  
ВІДПОВІДАЛЬНІСТЮ «ОМФ ПАБЛІШІНГ», м. Київ (місцезнаходження:  
вул. Сімферопольська, буд. 13-а, оф. 121, м. Київ, 02096, адреса електронної  
пошти: office@omfpublishing.com), про реєстрацію суб'єкта у сфері онлайн-  
медіа, керуючись Законом України «Про медіа», Порядком подання до  
Національної ради України з питань телебачення і радіомовлення заяв щодо  
реєстрації суб'єктів у сфері медіа, затвердженим рішенням Національної ради від  
18.05.2023 № 352 (зі змінами), Національна рада

#### ВИРІШИЛА:

1. Зареєструвати ТОВАРИСТВО З ОБМЕЖЕНОЮ  
ВІДПОВІДАЛЬНІСТЮ «ОМФ ПАБЛІШІНГ», м. Київ, суб'єктом у сфері  
онлайн-медіа.

2. Внести до Реєстру суб'єктів у сфері медіа відомості щодо реєстранта  
ТОВ «ОМФ ПАБЛІШІНГ», м. Київ, та присвоїти ідентифікатор у Реєстрі,  
зазначивши:

- суб'єкт у сфері онлайн-медіа;
- ідентифікатор медіа – R40-04708;
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- кінцевий бенефіціарний власник – [REDACTED];
- вид онлайн-медіа – журнал;
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IPv4: 5.9.144.130; доменне ім'я: dtjournal.org; реєстрант: ТОВ «ОМФ  
ПАБЛІШІНГ», місцезнаходження: вул. Сімферопольська, буд. 13-а, оф. 121,

A

**FIGURE 2.** The *Journal* is registered by the National Council of Television and Radio Broadcasting of Ukraine (A, B) as online media (Decision of April 25, 2024, No. 1454). The identifier of online media is R40-04708. (Fig 2 continued on next page.)



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COMMENTARY

FLAPS

# Perioperative Management for Microvascular Free Tissue Transfer for Head and Neck Reconstruction – Commentary

John M. Le<sup>a,\*</sup>, Jay Ponto<sup>b</sup>, Yedeh P. Ying<sup>c</sup>, & Anthony B. Morlandt<sup>d</sup>

## SUMMARY

Le and colleagues provided a comprehensive commentary on perioperative management for head and neck oncologic patients undergoing microvascular reconstructive surgery. This commentary is based on a detailed review and consensus statements from the Society for Head and Neck Anesthesia (SHANA), an international organization dedicated to enhancing perioperative care for these patients. The consensus statement, published in 2021 by Healy and colleagues, addressed preoperative, intraoperative, and postoperative considerations to optimize clinical outcomes. It included 14 statements from 16 SHANA members across 11 institutions, following two rounds of literature reviews.

The commentary emphasized the importance of preoperative nutrition optimization, tobacco cessation, and early recognition of alcohol withdrawal symptoms. In the intraoperative phase, key aspects such as airway management in cases of extensive tumor burden (including awake fiberoptic intubation and tracheostomy), fluid management, hemodynamic monitoring, and multimodal analgesia were briefly discussed. Notably, vasopressors can be used to optimize hemodynamic management without compromising flap perfusion. Additionally, careful fluid resuscitation is crucial to avoid fluid overload, which could increase the risk of flap failure. Multi-

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modal pain management strategies were highlighted, including inhalational anesthetics, anti-inflammatories, narcotics, and regional anesthesia.

In the postoperative period, effective communication between healthcare provider teams is essential. Airway management was linked to three of the five consensus statements, underscoring the need for clear and concise communication between the anesthesia and surgical teams. This includes coordinating ventilatory support weaning, extubation planning, and preparation for reintubation if necessary. Such measures help reduce intensive care unit (ICU) utilization, minimize airway-related adverse events, and shorten the length of hospitalization.

Overall, the commentary hopes to serve as a guide for multidisciplinary head and neck oncology units across all international centers in managing this complex patient population.

### KEY WORDS

Head and neck oncology, microvascular surgery, head and neck anesthesia, perioperative management.

### COMMENTARY

Perioperative management of adult patients undergoing head and neck microvascular reconstructive surgery varies among anesthesiologists and institutions. Due to the medical and surgical complexities associated with this patient population, various perioperative management protocols have been described to improve clinical outcomes starting from the initial preoperative clinic visit until the early postoperative outpatient clinic visit. These protocols have been coined as the term “Enhanced Recovery After Surgery” or ERAS and were first applied in the field of colorectal surgery, followed by additional surgical specialties (e.g., breast, spine, gynecologic, and orthopedics), and more recently major head and neck surgery [1, 2]. Regarding microvascular reconstructive head and neck surgery, advancements in surgical techniques and perioperative monitoring of the flap have resulted in decreased surgical complications and greater flap success rates [3, 4]. In addition to innovations from the surgical perspective, optimizing perioperative care for these surgical patients improves clinical outcomes and decreases hospitalization, healthcare costs, and utilization of resources. This is a commentary on an article published by the Society for Head and Neck Anesthesia in 2021 highlighting the multidisciplinary management of the head and neck patient.

In 2021, Healy and colleagues conducted an extensive review of the literature and released an expert consensus statement on the perioperative management of adult patients undergoing microvascular free tissue reconstruction of the head and neck from the Society for Head and Neck Anesthesia (SHANA) [5]. In this article, the

authors highlight the challenges in the perioperative and anesthesia care of this patient population as they generally present with multiple medical comorbidities (e.g., advanced age, malnutrition, cardiovascular disease, peripheral vascular disease, chronic pulmonary obstructive disease, kidney disease, reduced physical mobility, and more). Furthermore, common risk factors such as long-standing tobacco smoking and alcohol consumption are also present in this patient population and negatively impact clinical outcomes during the perioperative period (e.g., wound healing complications and alcohol withdrawal) and prolong hospitalization. The authors state that there remains little guidance to optimize care; and as a result, the training experience of the practitioner(s) has been the general institutional culture which varies among institutions. To address this variability in care, the leadership of SHANA elected 16 of its members, representing 11 institutions to develop guidance supported by clinical evidence and expertise using a modified Delphi Method. The members then developed focused topic questions following two rounds of literature reviews. The first literature search identified clinical practice guidelines, systematic reviews, meta-analyses, and review articles related to the subject population. The second literature search identified randomized controlled trials and observational studies related to the focused questions based on the initial literature search. This resulted in 14 consensus statements grouped by phase of care (preoperative, intraoperative, and postoperative). In this commentary, we will highlight the statements that we feel are most relevant in guiding the postoperative management of the head and neck patient, Table 1.

**TABLE 1.** Expert Consensus Statements by the SHANA adopted from Healy and colleagues (2021) [5].

| Statement                     |   |
|-------------------------------|---|
| Preoperative Considerations   |   |
| 1                             | Perioperative nutritional assessment and intervention may improve outcomes in this patient population   |
| 2                             | Preoperative tobacco cessation is beneficial for this patient population  |
| 3                             | Assessment and management of alcohol withdrawal syndrome reduces the risk for adverse outcomes in this patient population   |
| Intraoperative Considerations |   |
| 4                             | Patient safety can be improved by the consideration of the performance of an awake airway management technique while retaining spontaneous ventilation during the care of this patient population given the high incidence of pathology that can render standard ventilation and/or intubation difficult or impossible        |
| 5                             | Vasopressors can be used to optimize the hemodynamic management of this patient population after identifying and correcting other hypotensive contributing factors, such as hypovolemia, deep anesthesia, anemia, and electrolyte abnormalities   |
| 6                             | Optimal monitoring of this patient population includes the use of standard ASA monitors; core temperature monitor, insertion of a Foley catheter to monitor urine output; the placement of an arterial line to monitor hemodynamic parameters, and the monitoring of fluid status metrics such as systolic pressure variation |
| 7                             | A hematocrit maintained at or above 25 may optimize oxygen delivery to free tissue transferred during surgical reconstruction in this patient population  |
| 8                             | Fluid overload may increase the risk of free flap failure in this patient population  |
| 9                             | Multimodal pain management strategies may enhance pain control during the care of this patient population   |
| Postoperative Considerations  |   |
| 10                            | Communication between the anesthesia and surgical team is encouraged when making a plan for extubation and potential reintubation for this patient population   |
| 11                            | Communicating management considerations and airway anatomical changes (through the medical record, handoffs, or signage) may reduce the risk of airway-related adverse events in this patient population  |
| 12                            | An anesthetic plan that includes early extubation and or weaning from ventilatory support can reduce postoperative pneumonia, ICU utilization, and hospital length of stay in this patient population   |
| 13                            | Postoperative care of this patient population requires specialized care and monitoring to ensure graft survival and patient recovery  |
| 14                            | The postoperative care of this patient population can be delivered in either an intensive care or a floor setting with appropriate monitoring and skilled nursing   |

Of the 14 statements, 3 were associated with the preoperative setting. Firstly, nutritional assessment and optimization can lead to improved outcomes in this population. Most patients present with malnutrition due to poor oral intake associated with tumor burden involving the airway and masticatory organs. Alternative means for enteral feeding that bypasses the oral cavity such as a gastrostomy tube should be considered in the preoperative planning phase. Secondly, tobacco cessation before surgery can improve both the patient’s health and well-being as well as flap outcome. Finally, assessment for alcohol withdrawal syndrome is important to avoid adverse events postoperatively. In our

practice, preoperative nutrition optimization is very important. For patients with advanced-stage tumors and sarcopenia, enteral access via gastrostomy tube placement is often performed at the time of the ablative and reconstructive surgery to permit sufficient short and long-term nutritional intake while the patient undergoes adjuvant therapy and dysphagia therapy.

Intraoperatively, optimal monitoring of the patient includes standard ASA monitors such as core temperature, noninvasive and invasive blood pressure, pulse oximetry, electrocardiogram, and urine output. This can allow for appropriate fluid management and resuscitation to avoid

fluid overload, support hemodynamic changes, and avoid vasopressors as necessary to avert vasoconstrictive changes that may affect flap success rates. While there is a tendency to avoid the use of vasopressors to prevent potential free flap complications, the literature has consistently shown that intraoperative use of vasopressors is safe in microvascular reconstructive surgery [6–9]. Finally, the incorporation of multimodal pain management can improve pain control and decrease the risk of opioid dependence. Studies have described the implementation of scheduled non-steroidal anti-inflammatory drugs (NSAIDs), acetaminophen, muscle relaxants (e.g., methocarbamol), and anticonvulsants (e.g., gabapentin) to reduce the total opioid consumption [10]. Some have shown promising results with regional analgesia via nerve blocks [11, 12]. In addition, multimodal analgesia such as regional anesthesia and the use of dexmedetomidine has been shown to reduce perioperative opioid consumption and potential surgical site complications in the early postoperative period [11, 13].

Notably, four statements were associated with airway management in the intraoperative and postoperative phases of care. This involved a thorough preoperative airway assessment using radiologic and endoscopic visualization in preparation for airway management following induction of anesthesia. Standard airway management, such as masking or intubation, may be more challenging due to altered airway anatomy in these patients, secondary to the tumor burden, trismus, or prior procedures. In these cases, an awake fiberoptic intubation or tracheotomy while retaining spontaneous ventilation can improve patient safety. In the postoperative phase, communication among the surgical, anesthesia, and postoperative care teams emphasizes the importance of ventilatory support weaning, safe extubation, and tracheostomy decannulation to reduce the risk for postoperative pneumonia, intensive care unit (ICU) utilization, and length of hospitalization stay. Furthermore, close postoperative monitoring in the specialized care unit (“step-down unit”) or ICU is appropriate to ensure free flap success rates and patient recovery. The decision to perform an elective tracheotomy versus delayed extubation in this patient population remains up for debate and varies across institutions. Several classification systems have been described to guide the surgeon in determining which patients

would require a tracheotomy to decrease the risk of an adverse airway event [14–16]. In our practice, we will generally perform a tracheostomy in patients who have composite resection of the mandible and near total glossectomy, bilateral neck dissection, and have a large body habitus (BMI >30). Furthermore, all patients undergoing free tissue transfer for head and neck reconstruction will go to a dedicated specialized care unit (non-ICU) for postoperative monitoring. The nursing staff are well trained in managing tracheostomy patients and monitoring free flaps.

In conclusion, the perioperative management of adult patients undergoing microvascular free tissue reconstruction of the head and neck is multifaceted, influenced by surgical advancements and comprehensive care protocols. The implementation of ERAS principles, initially developed for colorectal surgery and subsequently adapted to various surgical specialties, including head and neck surgery, underscores the importance of optimizing perioperative care to improve clinical outcomes. Complex medical comorbidities and lifestyle factors characterize the challenges inherent in managing this patient population. These necessitate a tailored approach to perioperative care. Incorporating evidence-based practices and interdisciplinary collaboration, informed by the SHANA consensus statement, facilitates a standardized approach while accommodating individual needs. By striving for excellence in perioperative care, healthcare providers can minimize complications, reduce hospitalization, and optimize patient outcomes within the context of head and neck microvascular reconstructive surgery.

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КОМЕНТАР

UKRAINIAN LANGUAGE

## Періопераційне лікування для перенесення вільних мікросудинних тканин при реконструкції голови та шиї – коментар

Джон М. Лей<sup>a,\*</sup>, Джей Понто<sup>b</sup>, Єде П. Ін<sup>c</sup> та Ентоні Б. Морландт<sup>d</sup>

### АНОТАЦІЯ

Лей та колеги надали вичерпний коментар щодо періопераційного (синонім: периопераційного) лікування онкологічних пацієнтів голови та шиї, яким проводять мікросудинну реконструктивну хірургію. Ця стаття коментар базується на детальному огляді та консенсусних заявах Спільноти анестезії голови та шиї (Society for Head and Neck Anesthesia (SHANA)), міжнародної організації, яка займається покращенням періопераційного догляду за цими пацієнтами. У консенсусній заяві, опублікованій у 2021 році Хілі та колегами, розглядалися перед-, інтра- та післяопераційні міркування для оптимізації клінічних результатів. Вона включала 14 заяв від 16 членів SHANA з 11 установ після двох раундів огляду літератури.

У коментарі підкреслюється важливість передопераційної оптимізації харчування, відмови від тютюнопаління та раннього розпізнавання симптомів алкогольної абстиненції. В інтраопераційній фазі коротко обговорювалися такі ключові аспекти, як управління дихальними шляхами у випадках великого пухлинного тягаря (включаючи волоконно-оптичну інтубацію у стані неспання та трахеостомію), управління рідиною, моніторинг гемодинаміки та мультимодальна аналгезія. Примітно, що вазопресори можна використовувати для оптимізації гемодинамічного управління без шкоди для пер-

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фузії клаптя. Крім того, обережна реанімація рідини має вирішальне значення, щоб уникнути перевантаження рідиною, що може збільшити ризик відмови клаптя. Були виділені мультимодальні стратегії лікування болю, включаючи інгаляційні анестетики, протизапальні засоби, наркотики та регіональну анестезію.

У післяопераційному періоді необхідна ефективна комунікація між командами медичних працівників. Керування дихальними шляхами було пов'язано з трьома з п'яти консенсусних тверджень, підкреслюючи необхідність чіткого та короткого спілкування між анестезіологічною та хірургічною командами. Сюди входить координація відлучення від штучної вентиляції легень, планування екстубації та підготовка до реінтубації, якщо необхідно. Такі заходи допомагають зменшити використання відділень інтенсивної терапії, звести до мінімуму побічні ефекти, пов'язані з дихальними шляхами, і скоротити тривалість госпіталізації.

Загалом даний коментар має стати посібником для мультидисциплінарних відділень онкології голови та шиї в усіх міжнародних центрах у веденні цієї складної групи пацієнтів.

### КЛЮЧОВІ СЛОВА

Онкологія голови та шиї; мікросудинна хірургія; анестезія голови та шиї; періопераційне лікування.

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