



## Article Original

# Temporary Functional Deficit due to Oral and Maxillofacial Surgery: in Yaoundé Central Hospital

*Déficit Fonctionnel Temporaire Dû à une Chirurgie Buccale et Maxillo-Faciale : à l'Hôpital Central de Yaoundé.*

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### ABSTRACT

**Introduction.** Temporary Functional Deficit in oral and maxillofacial surgery is a head of damage that is a function of length of stay or hospitalization. The temporary functional deficit is the period during which the victim cannot lead a normal existence. Its calculation is based on the length of hospitalization. The aim of this study was to determine the average length of stay of a patient having temporary functional deficit due to oral and maxillofacial in the Yaounde Central Hospital. **Methodology.** We conducted a retrospective descriptive study over a five-year period from January 2018 to January 2023 including all patients hospitalized for an oral and maxillofacial surgical pathology at the Yaounde Central Hospital. **Results.** We collected data from 356 patients whose average age was 33+/- 15 years. The sex ratio was 2.1. Patients were hospitalized mainly for maxillofacial trauma in the proportion of 47.2%. Arterial hypertension was the most common prior condition in 73 patients or 20.5%. Diffuse cervico-facial cellulitis was the most common pathology found in our series in proportion of 29.2%. Pan-facial fractures had the longest temporary functional deficit in our series, 9.6 days, followed by diffuse cervico-facial cellulitis with 8.7 days. Circumscribed cervico-facial cellulitis had a shorter temporary functional deficit with 3.9 days. **Conclusion.** The length of stay is an important element for the calculation of the temporary functional deficit. Reflections and additional studies would be necessary to remove the subjective nature of the calculation of the temporary functional deficit.

### RÉSUMÉ

**Introduction.** Le déficit fonctionnel temporaire en chirurgie buccale et maxillo-faciale est une mesure de l'impact d'une blessure en fonction de la durée de séjour à l'hôpital. Le déficit fonctionnel temporaire correspond à la période pendant laquelle la victime ne peut mener une vie normale. Son calcul est basé sur la durée d'hospitalisation. L'objectif de cette étude était de déterminer la durée moyenne de séjour d'un patient présentant un déficit fonctionnel temporaire en raison d'une pathologie buccale et maxillo-faciale à l'Hôpital Central de Yaoundé. **Méthodologie.** Nous avons mené une étude descriptive rétrospective sur une période de cinq ans, de janvier 2018 à janvier 2023, incluant tous les patients hospitalisés pour une pathologie chirurgicale orale et maxillo-faciale à l'Hôpital Central de Yaoundé. **Résultats.** Nous avons collecté des données de 356 patients ayant un âge moyen de 33 +/- 15 ans. Le ratio hommes/femmes était de 2,1. Les patients étaient principalement hospitalisés pour des traumatismes maxillo-faciaux, dans une proportion de 47,2%. L'hypertension artérielle était la condition préexistante la plus courante chez 73 patients, soit 20,5%. La cellulite cervico-faciale diffuse était la pathologie la plus courante dans notre série, représentant 29,2%. Les fractures panfaciales avaient le plus long déficit fonctionnel temporaire dans notre série, avec 9,6 jours, suivi de la cellulite cervico-faciale diffuse à 8,7 jours. La cellulite cervico-faciale circonscrite présentait un déficit fonctionnel temporaire plus court, avec 3,9 jours. **Conclusion.** La durée de séjour est un élément important pour le calcul du déficit fonctionnel temporaire. Des réflexions et des études supplémentaires seraient nécessaires pour éliminer la nature subjective du calcul du déficit fonctionnel temporaire.

### KEY RESULTS

#### The aim of our study

To determine the average length of stay of a patient having temporary functional deficit due to oral and maxillofacial surgery in the Yaounde Central Hospital

#### Key results

1. The average age of patients was 33 years old with a sex ratio of 2.1.
2. Most patients were hospitalized for maxillofacial trauma (47%) or cervicofacial swelling (38%).
3. Temporary Functional Deficit or length of stay was 9.6 days for pan-facial fractures and 3.9 days for acute circumscribed cellulitis.

#### Implications for practice, policy or future research

Personal injury experts should use average length-of-stay values when calculating Temporary Functional Impairment to improve their final report.

## INTRODUCTION

Personal injury law is based on civil liability, since it also covers the rules governing compensation for injury in general, as well as for the specific types of injury known as bodily injury [1]. Compensation for bodily injury often requires medical expertise. Medical expertise has as aim to provide a medical description of each of the injuries suffered by the victim [2]. According to the Dintilhac nomenclature, temporary functional impairment is the period during which the victim is unable to lead a normal life. This corresponds to periods of hospitalization [3]. This loss item is assessed before the date of consolidation and takes three aspects into account: damage to the victim's psychological functions, the temporary pain he or she experiences and the loss of quality of life and disturbance to living conditions that the victim encounters on a daily basis [4]. Compensation for this item of damage is empirical and is underpinned by the lack of a benchmark for average hospitalization or length of stay in oral and maxillofacial surgical unit [5]. The aim of this work was to propose the tools needed by experts, in particular the average length of stay, for a fair determination of the temporary functional deficit and adequate compensation by third-party payers.

## PATIENTS AND METHODS

We conducted a retrospective descriptive study. Our study took place at the Yaounde Central Hospital, in the Ear, Nose and Throat (ENT) and Cervico-Maxillofacial Surgery Department. This hospital structure is located in the city of Yaounde, in the Central Region, the political capital of Cameroon. Their purpose is to provide quality care, serve as educational support, promote research and limit medical evacuations. The study duration was from January 1, 2023 to September 1, 2023, or 09 months. Data were collected over a 5-year period from January 1, 2018 to January 1, 2023. All records of patients received and hospitalized in the ENT and cervico-maxillo-facial surgery department of the Yaounde Central Hospital during our study period were included. All records that could not be found or were incompletely filled out were excluded. The files were examined in the archiving

department of the hospital after obtaining administrative authorization. The files corresponding to the selection criteria were carefully studied in order to extract the data necessary for our study. The data collected were recorded on a data sheet with a coding system to guarantee the anonymity of the participants. The socio-demographic characteristics of the patients i.e. gender, age, place of residence and medical history, were investigated to find out the reasons for hospitalization and discharge diagnosis. Finally, the length of stay for each pathology was determined. Descriptive analysis of the data collected was carried out using SPSS software version 23.0. Data were presented in the form of tables and figures. Categorical variables were presented in the form of numbers and frequencies. To carry out this work, we obtained ethical approval from the Ethics Committee of the Faculty of Medicine and Biomedical Sciences of the University of Yaounde I and administrative authorization from the Yaounde Central Hospital. The information collected was used exclusively within the framework of this study and in strict compliance with medical secrecy. Informed consent was obtained from all individual participants included in the study.

## RESULTS

We studied 404 files and 356 were included in our study. We obtained n=115 female subjects (32%) and n=241 male subjects (68%) for a sex ratio of 2.1. The most represented age group was 20-30 years (30.9%). The mean age was 33, with extremes of 3 and 87. Maxillofacial trauma was the most frequent reason for hospitalization with (47.2%) (Table I).

**Table I: Sample distribution by reason for hospitalization**

Reasons for hospital admission	N	%
Cervico-facial swelling	134	38
Maxillofacial trauma	168	47
Mandibular swelling	20	6
Permanent limitation of mouth opening	11	3
Endo buccal swelling	7	2
Cervico thoraco facial tumefaction	5	1.4
Jugal swelling	5	1.4
Maxillary tumefaction	4	1
Complex facial wound	2	0.5
Total	356	100

In our study, arterial hypertension was the condition most frequently encountered n=73 or 20.5%. The highest Average Temporary Functional Deficit (ATFD) was for the management of pan-facial fractures at 9.6 days, with extremes ranging from 5-16 days. On the other hand, the average ATFD for the management of circumscribed cellulitis was 3.9 days, with extremes ranging from 3-6 days. (Table II).



**Table II: Diagnosis and length of stay**

Diagnostics	Temporary functional deficit in days n (%)			
	<3	[4-7]	[8-14]	[15,+
Diffuse cervicofacial cellulitis	3	38	56	6
Facial clash	2	28	25	6
Lower floor fracture	4	37	15	2
Middle floor fracture	2	14	7	0
Circumscribed cervicofacial cellulitis	9	8	0	0
Jaw cyst	4	16	1	0
Benign tumor	4	14	8	0
Malignant tumor	1	7	1	1
Pan-facial fracture	0	6	6	2
Fracture upper floor	0	5	1	1
Ankylosis of the TMJ	1	6	5	0
Others	0	2	2	0
Total	30	181	127	18

## DISCUSSION

We had a sex ratio of 2.1. This result could be explained by the fact that cervicofacial cellulitis and maxillofacial trauma are mostly caused by vehicles often driven by men. This result is in line with data from Eboungabeka and *al.* in 2020 [6], Rakotoarisoa and *al.* in 2014 [7], Cabrera and *al.* in 2023 [8]. In our sample, the most represented age group was 20-29, at 30.9%. The mean age was 33, with extremes of 3 and 87. These results can be explained by the presence of two major pathologies (traumatic and infectious) affecting adolescents. Adebayo and *al.* in 2019 found a mean age of 30 years for traumatic pathologies [9]. Edouma and *al.* in 2023 [10] and Eboungabeka and *al.* in 2020 [6] found an average age of 32.6 and 32.8 respectively for infectious diseases. Maxillofacial trauma was the most frequent reason for hospitalization (47.2%). This result is similar to those of Adebayo and *al.* in 2003 in Nigeria [9] and Gassner and *al.* in 2003 in Australia [11], who describe maxillofacial trauma as a real public health problem. In our sample, High blood pressure was the most common prior condition (20.5%). This result could be explained by its high prevalence in the general population, which is 29.7% according to Cameroon Society of Cardiology and Ze Minkande Jacqueline in 2023 [12]. The highest average FTD was for the management of pan-facial fractures, at 9.6 days. This could be explained by the complexity and cost of surgical management. On the other hand, the FTD for the management of circumscribed cellulitis was 3.9 days. This result could be explained by the possibility, at this stage of the pathology, of outpatient treatment with good results.

## CONCLUSION

The length of stay is an important element for the calculation of the temporary functional deficit. Reflections and additional studies would be necessary to remove the subjective nature of the calculation of the temporary functional deficit. There is a need to calculate temporary functional impairment in oral and maxillofacial surgery by determining the average length of stay. It will enable us to set up reference systems that

can be used in our context, in order to avoid as far as possible differences in compensation.

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## Declaration of interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

## Author contributions

Nkolo Tolo Francis Daniel designed the study. Nseme Etouckey Eric and Edouma Bohimbo Jacques Gerard collected the data. Nkolo Tolo Francis Daniel carried out the statistical analysis and drafted the manuscript. Bengondo Messanga Charles critically read the manuscript. All authors have given their consent for publication.

## REFERENCES

- 1- J. Carbonnier, Droit civil, les obligations, Paris : PUF. 2004 ; n 1114 : 22-53
- 2- Pradel, Xavier. Le préjudice dans le droit civil de la responsabilité. Thèse : Droit : Paris 1. 2001
- 3- Dang vu, Vincent. La classification des préjudices en droit commun suivant la nomenclature dite Dintilhac. Journal de médecine légale droit médical. 2010 ; 53(6) :273-299
- 4- Merlin, Olivier et Rossant, Jacqueline. Le déficit fonctionnel temporaire. Journal du droit de la santé et de l'assurance maladie (JDSAM). 2020 ;(2) : 24-27
- 5- Béry, Alain, Daniel Cantaloube, Laurent Delprat. Expertise dentaire et maxillo- faciale. Principes, conduite, indemnisation. Orthod Fr. 2011;(82) : 307-309
- 6- Marcelle, Eboungabeka, Trigo edith rose, Dibansa olivier, and Lekesse Chanelle. "odontogenic cervico-facial cellulitis at the university hospital of brazzaville: about 431 cases." open journal of stomatology. 2020 ; 10(2) : 19-27
- 7- Rakotoarisoa et *al.* "épidémiologie des fractures faciales observées au service de chirurgie maxillo-faciale du CHU d'Antananarivo." revue de stomatologie malgache. 2014 ; 9 : 20- 32
- 8- Cabrera, Nicole Elizabeth Zumba, et *al.* "overview of maxillofacial trauma, definitions, epidemiology, management, airway, circulation, bleeding control, systemic antibiotic prophylaxis and maxillofacial surgery." epra international journal of multidisciplinary research (ijmr). 2023 ; 9(7) :135-142
- 9- Adebayo, Ezekiel Taiwo, o. S. Ajike, and e. O. Adekeye. "analysis of the pattern of maxillofacial fractures in kaduna, nigeria." british journal of oral and maxillofacial surgery. 2023; 41(6): 396-400.
- 10- Bohimbo, Jacques Gérard Edouma, et al. "severity scale of cervico facial cellulitis with a clinical experience." advances in oral and maxillofacial surgery. 2023; 11: 1004-33
- 11- Gassner, Robert, et *al.* "cranio-maxillofacial trauma: a 10-year review of 9543 cases with 21 067 injuries." journal of cranio-maxillofacial surgery. 2003; 31(1): 51-61.
- 12- Jacqueline, Ze Minkande. "tous les résumés des conférences et des communications orales." health sciences and disease. 2023 ; 24(2) : suppl 1.