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### Principles of Manual Tissue Processing in an Oral and Maxillofacial Pathology Laboratory in Lagos, Nigeria

#### *Principes du Traitement Manuel des Tissus dans un Laboratoire de Pathologie Orale et Maxillo-Faciale à Lagos*

<sup>1\*</sup>U. P. Egbunah, <sup>2</sup>A. O. Akinshipo, <sup>2,3</sup>O. F. Ajayi

#### ABSTRACT

**INTRODUCTION:** Tissue processing describes the steps involved in infiltrating a well fixed tissue with wax for section cutting on a microtome. Paraffin tissue processing can be performed either manually or by using an automated tissue processor and errors in any of the steps involved would significantly affect histopathology. The aim of this article was to describe to principles of manual tissue processing as performed in the Oral and Maxillofacial Pathology Laboratory of the College of Medicine, University of Lagos, Nigeria (OMFP-CMUL Lab).

**METHODS:** We report the principles of manual tissue processing as performed in the OMFP-CMUL lab using the index case of an 11-year-old girl with a histopathologic diagnosis of unicystic ameloblastoma.

**RESULTS:** Steps of tissue processing included fixation, specimen accessioning, gross examination, decalcification (for tissue specimens containing calcium deposits), dehydration, clearing, infiltration, embedding, sectioning, labeling of tissue blocks, tissue floatation bathing, making the slide and numbering, staining, drying, cover-slipping, and microscopic examination.

**DISCUSSION:** Common errors seen in histopathology laboratories were avoided by the quality control practices of the residents, consultants, laboratory scientists and technicians within the department.

**CONCLUSION:** This article elucidates the principles of manual tissue processing as performed in the OMFP-CMUL lab detailing their observed protocols and error preventing measures such that these principles and measures can be adopted in other histopathology laboratories with similar working conditions. **WAJM 2022; 39(1): 31–38.**

**Keywords:** Manual, tissue processing, pathology laboratory, Lagos, Nigeria.

#### RÉSUMÉ

**INTRODUCTION:** Le traitement des tissus décrit les étapes d'infiltration d'un tissu bien fixé avec de la cire pour la coupe de sections sur un microtome. Le traitement des tissus en paraffine peut être effectué soit manuellement ou à l'aide d'un processeur de tissus automatisé et les erreurs commises dans l'une ou l'autre de ces étapes peuvent affecter de manière significative l'histopathologie. Le but de cet article était de décrire les principes du traitement manuel des tissus tel qu'il est effectué dans le laboratoire de pathologie orale et maxillofaciale du Collège de Médecine de l'Université de Lagos, Nigeria (Laboratoire OMFP-CMUL).

**MÉTHODES:** Nous rapportons les principes du traitement manuel des tissus tels qu'ils sont réalisés dans le laboratoire de l'OMFP-CMUL en utilisant le cas d'index d'une fille de 11 ans avec une diagnostic histopathologique d'améloblastome unicystique.

**RÉSULTATS:** Les étapes du traitement des tissus comprennent la fixation, l'accession des spécimens, l'examen macroscopique, la décalcification (pour les spécimens de tissu contenant des dépôts de calcium), la déshydratation, le nettoyage, l'infiltration l'enrobage, la coupe, l'étiquetage des blocs de tissus, la flottaison des tissus, le bain, la fabrication de la lame et la numérotation, la coloration, le séchage, le recouvrement et l'examen microscopique.

**DISCUSSION:** Les erreurs courantes observées dans les laboratoires d'histopathologie ont été évitées grâce aux pratiques de contrôle de qualité des résidents, consultants, des scientifiques et des techniciens de laboratoire au sein du service.

**CONCLUSION:** Cet article élucide les principes du traitement manuel des tissus tel qu'il est effectué dans le laboratoire de l'OMFP-CMUL en détaillant leurs protocoles observés et les mesures de prévention des erreurs afin que ces principes et mesures puissent être adoptés dans d'autres laboratoires d'histopathologie ayant des conditions de travail similaires. **WAJM 2022; 39(1): 31–38.**

**Mots clés :** Manuel, traitement des tissus, laboratoire de pathologie, Lagos, Nigeria.

<sup>1</sup>Department of Oral and Maxillofacial Surgery, Lagos University Teaching Hospital, Lagos, Nigeria. <sup>2</sup>Department of Oral and Maxillofacial Pathology/Biology, Faculty of Dental Sciences, College of Medicine; University of Lagos, Lagos, Nigeria. <sup>3</sup>Department of Oral and Maxillofacial Pathology/Biology, Lagos University Teaching Hospital, Lagos, Nigeria.

\*Correspondence: Dr. Uchenna P. Egbunah, Department of Oral and Maxillofacial Surgery, Lagos University Teaching Hospital, Idi-Araba, Lagos, Nigeria. Email: dregbunahup@gmail.com Phone No.: 2349063061329.

Abbreviations: OMFP-CMUL Lab, Oral and Maxillofacial Pathology Laboratory.