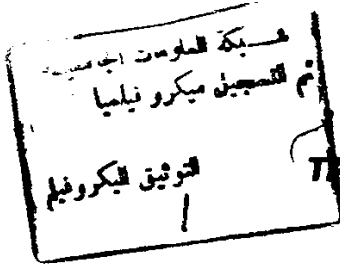


# MANAGEMENT OF NECK INJURIES

ESSAY SUBMITTED FOR PARTIAL FULLFILMENT  
OF MASTER DEGREE IN GENERAL SURGERY



عبد المني  
**PRESENTED BY**  
**TAREK ALI ABDEL NABY**  
**M.B. ,B. CH. 1988**

617.371  
T.A.

59157  
**SUPERVISED BY**  
**PROF. DR. REDA ABDEL TAWAB**  
PROF. OF GENERAL SURGERY  
FACULTY OF MEDICINE  
AIN SHAMS UNIVERSITY



**DR. ILHAMY SAAD ISKANDER**  
LECTURER OF GENERAL SURGERY  
FACULTY OF MEDICINE  
AIN SHAMS UNIVERSITY

**FACULTY OF MEDICINE**  
**AIN SHAMS UNIVERSITY**

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جامعة عين شمس

كلية الطب

## *Approval Sheet*

رسالة ماجستير

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إسم الطالب : طارق على محمد عبد النبي

عنوان الرسالة : علاج أصابات الرقبة

إسم الدرجة : ماجستير

لجنة الإشراف

---

الإسم: أ.د. رضا عبد التواب خليل الوظيفة : أستاذ الجراحة العامة

الإسم: د. ألهم سحر أسكندر الوظيفة : مدرس الجراحة العامة

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## **LIST OF KEY WORDS**

AJV	Anterior jugular vein
B.Vs	Blood vessels.
CCA	Common Carotid Artery
COP	Cardiac Output.
CVS	Cardiovascular System.
ECA	External Carotid Artery
EJV	External jugular vein.
ICA	Internal Carotid Artery.
IJV	Internal Jugular Vein.
Ms ,	Muscle.
MS,s	Muscles
RTA	Road traffic accidents.
SLN	Superior laryngeal nerve
STA	Superior thyroid artery.
TPN	Total Parenteral Nutrition.
VA	Vertebral artery.



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## **INTRODUCTION**

Trauma is the leading cause of mortality and disability during the first four decades of life , and is the third most common cause of death overall (Parks , 1991).

Trauma to the neck is a common and very important surgical problem which requires a co-ordinated team of specialized surgeons to deal with. In spite of the expansion of the services of the neurosurgeons and orthopedic surgeons , yet the general surgeon still plays the major role in the management of neck injuries (Al - Kutobi and Kreel , 1994).

Neck trauma is generally classified into ; blunt (closed) and penetrating (open) varieties according to the causative factor. On the other hand , the bony , soft tissue , nervous and vascular anatomy of the neck , make the results of neck trauma variable ranging from a such trivial post-traumatic torticollis up to a very serious life threatening vascular , laryngeal or spinal injuries (Berger and Feinmesser , 1991).

Causative factors of neck trauma are variable and multiple with the commonest RTA , stab wounds , gun shot trauma , sporting activities , and less common are fights , assaults, falls and agricultural trauma (Adams , 1993).

## **AIM OF THE WORK**

The aim of this work is to review the surgical anatomy of the neck , aetiology and different types of neck trauma , and to discuss the optimal managemnet strategy of neck injuries in public emergency centers.

## Chapter 1

### **SURGICAL ANATOMY OF THE NECK**

**T**he anatomy of the neck should be understood based on the regions of surgical decision making (MacSwain and Ware, 1993).

The neck is divided into three zones ; (Fig. 1) Zone I occupies the base of the neck below the cricoid cartilage , Zone II lies between the cricoid cartilage and the hyoid bone or the angle of the jaw ,Zone III extends from the suprahyoid bone to the base of the skull .

#### **ANATOMICAL REGIONS OF THE NECK**

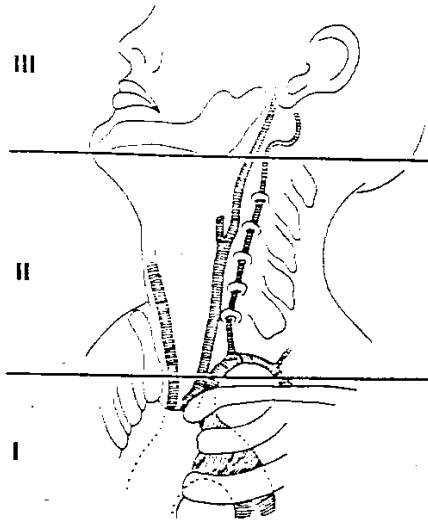
The anterior regions of the neck (the two anterior triangles) comprises three suprahyoid areas(one median and two lateral)and two infrahyoid areas (superficial and deep).

The lateral regions of the neck are;the sternomastoid (carotid) the retromandibular fossa and the supraclavicular fossa.The thoracocervical region (root of the neck) adjoins the thoracic inlet and is occupied mainly by structures which enter and emerge from the thoracic cavity.

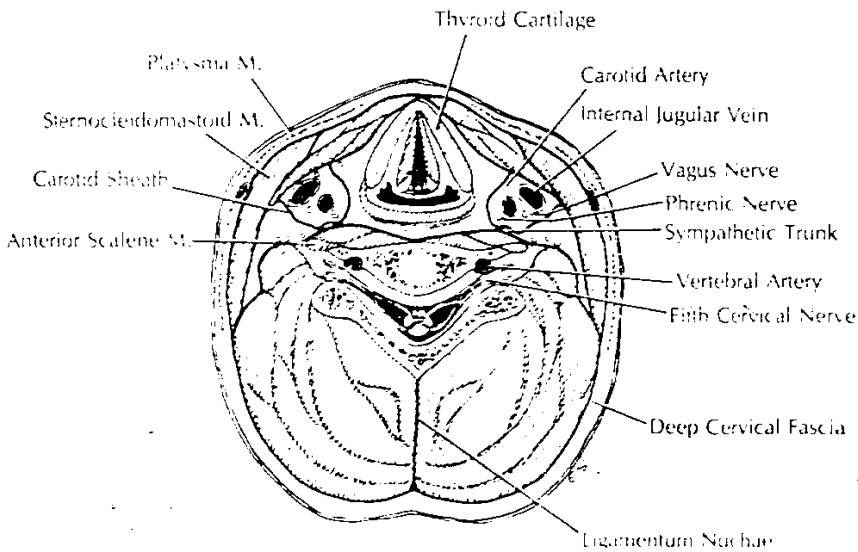
The nuchal region of the neck is bounded above by the superior nuchal line and anterolaterally by lines curving from the mastoid process to the tip of the acromion process. Inferiorly it is bounded by a horizontal line running through the spinous process of the seventh cervical vertebra and the acromion process of each scapula (MacMinn, 1990).

#### **CERVICAL LYMPH NODES**

Lymph nodes of the head and neck are arranged in two groups.THE SUPERFICIAL nodes are arranged in two circles ;



**Fig. 1 : Surgical zones of the neck. (MacSwain & Ware, 1993)**



**Fig. 2 : Cross-section of zone II of the neck. (Battistella & Goodnight, 1994)**