



كلية الطب - جامعة المنصورة



الطب الشرعي والسموم الإكلينيكية

Student's Logbook

Forensic Medicine and Clinical Toxicology

For
Fourth Year Students

2015-2016

Student's name:

Student's number:

Starting date:

رسالة الكلية

تقديم مستوى عال التميز فى التعليم والتدريب الطبى وتقديم خدمات صحية متميزة للمجتمع عن طريق المراكز الطبية المتخصصة وكذلك الإرتقاء بالبحث العلمى

رؤية الكلية

أن نصنف إقليميا ونحقق التميز فى التعليم الطبى والبحوث وخدمة المجتمع

تم إعتاماد الكلية فى 24 أغسطس 2011

Preface

Dear students

Welcome to Forensic Medicine and Clinical Toxicology Department. This logbook aims to accomplish Intended Learning Outcomes (ILOS) and enable undergraduate medical students to enrich their intellectual and practical skills in Forensic Medicine and Clinical Toxicology. We think that it will meet your needs in your future practical career by training especially how to write traumatic wound or toxicological reports that will help you to avoid common mistakes in the medical practice later on. Also, our curricula will be a useful guide for developing your knowledge about different aspects of medical ethics and malpractice encountered in daily your future life. We wish you all studying for the Forensic and Toxicology subjects that will satisfy your interest, creation, thinking and accomplish interactive learning and activities.

*Staff members of Forensic Medicine and Clinical
Toxicology Department
2015-2016*

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Instructions for the 4th year undergraduate students

1. Attendance should be within 15 minutes from the starting time of section or lecture (i.e 9 – 9.15 am).
2. Attendance in Skills Lab or Virtual Lab must be on schedule.
3. Students should attend clinical rounds in the emergency hospital according to the scheduled tables.
4. Students will be divided into groups distributed on department staff members for their self learning activities and there will be a competition for best student activity at the end of the round and a ceremony will be held at the end of the year, to honor the winners.
5. **By the end of the round, all students should** deliver their practical books (logbook), forensic reports and student activities (self-learning), to secretary office and sign in front of their names.

Prerequisites for mid-year MCQ exam

1. Attendance rate: 75%.
2. Fulfilling the formative exam one week before mid-year MCQ exam on "Faraby system".

** Subjects included in mid-year exam are: Identification – Wounds – Head injuries – Firearm injuries- Pregnancy, abortion, and delivery - Seeds & capsules- General toxicology – Corrosives – Pesticides.

Skills lab

Location: Block D – Ground Floor.

Laboratory No.: Lab (1) & Lab. (2).

Objectives: How to perform the technique of gastric lavage.

Method of assessment: practical exam according to checklist.

Time of exam: at the end of the clinical round.

Virtual lab

Location: Block D – Ground Floor.

Laboratory no.: Lab (1)

Objectives: How to approach for diagnosis and treatment of toxicological case.

Method of assessment: MCQ examination.

Time of exam: at the end of the clinical round.

Intended Learning Outcomes (ILOs)

a) Knowledge and Understanding

By the end of the course the student will be able to:

- A1 Identify the different medico-legal (ML) aspects regarding identification of collection of bone, living or dead persons.
- A2 Identify the differences between somatic, molecular and apparent deaths and diagnose somatic death.
- A3 Recognize time passed since death and postmortem changes as cooling, rigor mortis, livor mortis, putrefaction and natural conditions replacing them with concern of their mechanisms and medicolegal importance.
- A4 Discuss the different medicolegal types of wounds regarding their shapes, causative instruments, medicolegal significance, manner of infliction, dating and causes of death regarding abrasions, bruises, incised, contused and stab wounds.
- A5 Explain certain regional injuries of neck.
- A6 Recognize different types of scalp injuries, skull fractures and brain and meninges injuries and anticipated complications of them.
- A7 Identify characters of firearm inlets and exits, factors affecting their shapes and manners of inflictions: suicide, homicide, accidental and fabricated.
- A8 Recognize blood stain investigations, DNA typing, blood grouping and medicolegal importance of blood grouping concerning incompatible blood transfusion.
- A9 Classify dry burns, scalds, corrosions and electrical burns.
- A10 Recognize causes of death due to different thermal injuries.
- A11 Identify the different types of violent asphyxia, postmortem signs, causes of death and medicolegal aspects of them regarding drowning, hanging, strangulation, throttling, choking, smothering and traumatic asphyxia.
- A12 Identify the different types of sexual offences, types of hymen and the medicolegal importance of its examination.
- A13 Know different types of physical child abuse regarding soft tissues, thermal, skeletal and internal organ injuries and recognize the approach for these cases.
- A14 Identify medical ethics concerning secrecy, consents and medical certificates and legal aspects of malpractice.
- A15 Recognize medicolegal aspects of pregnancy and delivery and types and methods of abortion and their complications.
- A16 Define poisons, list their classification and factors affecting their action.
- A17 Recognize the different tools of diagnosis by history, clinical examination and appropriate routine and toxicological investigations.
- A18 Recognize the appropriate management including:
 - 1. First aid management of air way, breathing, circulation and disability.
 - 2. Different decontamination measures of GIT, skin, eye and lungs.
 - 3. Commonly used antidotes for different classes of drugs and toxic substances.
 - 4. Enhanced elimination methods

- A19 Identify common toxic substances regarding their actions, clinical pictures, appropriate investigations and treatment for the following poisons:
- Corrosives as caustics, carbolic and cyanide.
 - Irritant poisons as lead, mercury and iron.
 - Pesticides as organophosphates and carbamates.
 - Plant poisons as opium, datura, cardiac glycosides, and cannabis.
 - Synthetic as salicylates, acetaminophen, barbiturates, benzodiazepins, antidepressants, theophylline and carbamazepine.
 - Gases and volatiles as carbon mono-oxide, methanol, ethanol and hydrocarbons.
 - Sympathomimetics as cocaine and amphetamine.
 - Food poisoning with concern botulism.
 - Injected animal poisons regarding toxic snake bites and scorpion stings
- A20 Define drug dependence and recognize biological social and psychological basis of drug abuse.
- A21 Recognize dependence of opioid, alcohols, cannabis, tramadol, cocaine, amphetamine, solvents and barbiturates.

b) Intellectual Skills

By the end of the course the student will be able to:

- B1 Analyze case scenario of forensic medicine and recognize their (ML) aspects.
- B2 Describe the causes of death of different injuries and toxins.
- B3 Analyze case scenario of intoxicated patient and formulate management plan.
- B4 Represent data to the legal authorities in a simplified Arabic manner.
- B5 Represent short essay on a certain topic in forensic Medicine or Clinical Toxicology by library or netsearch.
- B6 Analyze cases of malpractice and ethical aspects of the medical practice

c- Professional and Practical Skills

By the end of the course the student will be able to:

- C1 Examine collection of bones regarding sex, age and race.
- C2 Predict bone ages by X ray examination
- C3 Compare different types of finger prints.
- C4 Describe different types of wounds regarding abrasions, contusions, cut wounds, contused and stab wounds regarding causative instruments and periods of survival after infliction and causes of death.
- C5 Describe skull fractures including fissures, localized depressed, comminuted, penetrating and cut fractures and skull defects of trephine operations considering causative instruments, periods of survival after infliction and causes of death.
- C6 Describe and differentiate different cartridges, shots, wads, bullets and gun powder.
- C7 Diagnose and describe different forms of firearm injuries including exits and inlets at different distances and exits inflicted by rifled and non rifle weapons in skin or bone specimens.
- C8 Identify and describe different toxic capsules as papaversomniferum, datura and colecyntn Capsules and root of galap and aconite, regarding their shapes, active principles and medicolegal aspects.
- C9 Identify and describe different toxic seeds as papaversomniferum, datura, strychnusnux vomica, cannabis, castor and croton seeds and the non toxic seeds

- simulating them as capsicum & onion seeds.
- C10 Predict the intrauterine fetal ages of feti jars in the museum and describe the characters for differentiation of every month.
 - C11 Describe uteri of illegal abortion and identify the cause of death and survival periods after abortion.
 - C12 Construct a proper primary wound report for cases in EmergencyHospital.
 - C13 Construct proper preliminary toxicological case report for cases of the Toxicology Unite.
 - C14 Recognize different preliminary and confirmatory tests for toxicological analysis and operate thin layer chromatography and calculate rate of flow for the unknown substance.

d- General and Transferable Skills

By the end of the course, the student should be able to;

- D1 Respecting all patient's rights and treat all patients equally regardless to their believes, culture and behavior.
- D2 Recognize one's own limitation of knowledge and skills and refer patients to appropriate specialized health facility at appropriate stage.

e- Professional attitude:

By the end of the course, the student should be able to;

- E.1. Adopt an empathic and holistic approach to the patients and their problems.
- E.2. Respect patients' rights and involve them and /or their caretakers in management decisions.
- E.3. Recognize the important role played by other health care professions in patients' management.
- E.4. Be aware of and understand the National Code of Ethics issued by the Egyptian Medical Syndicate.
- E.5. Ensure confidentiality and privacy of patients' information.
- E.6. Demonstrate respect and work cooperatively with other health care professions for effective patient management.
- E.7. Be willing to share in all types of inter-professional activities including collaborative and shared learning

f- Communication skills:

By the end of the course, the student should be able to;

- F.1. Communicate clearly, sensitively and effectively with patients and their relatives, and colleagues from a variety of health and social care professions.
- F.2. Cope with situations where communication is difficult including breaking bad news.
- F.3. Show compassion to the patients and their relatives in situations of stress and grief.
- F.4. Honor and respect patients and their relatives, superiors, colleagues and any other member of the health profession.

Assessment System

Methods of assessment		Marks Allocated	Total Marks
Mid-Term exam	MCQ	25	40
	Virtual lab	5	
	Logbook	5	
	Students activities (self-learning)	5	
Final written exams*	Written toxicology paper	35	100
	MCQ toxicology paper	15	
	Written forensic paper	35	
	MCQ forensic paper	15	
Practical assessment	Final practical Exam	25	40
	Skills lab	5	
	Reports	10	
Oral exam	Two stations for oral exam (Forensic station & Toxicology station)	20	20
Total			200

***First paper: Clinical Toxicology; Second paper: Forensic Medicine**

So, by the end of the round, the student has to complete the logbook (5 marks), student self activity (5 marks), virtual lab exam (5 marks), skills lab (5 marks) and the MCQ Exam (30 marks) that constitutes 60% from the total marks (200) of Forensic Medicine and Clinical Toxicology curriculum.

I-Practical Sections

1- Identification (1)

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diagnose age 23.

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diagnose age 18.

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2- Identification (2)

of teeth examination.

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between male and female hip-bones.

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between male and female sternums.

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4- Medico-legal importance (MLI) of wounds

between cut and contused wounds.

between cut and stab wounds.

5- MLIof head injuries (1)

fracture, mention causative instrument.

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Date / / 20

6- MLI of head injuries (2)

1. Define brain concussion.

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2. Define brain compression.

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3. Define lucid interval.

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Tutor

Date / / 20

7- MLIof firearm weapons

1. Define rifling marks.

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2. Define riflings.

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3. Differentiate between black and smokless gun powder.

Tutor

Date / / 20

8- MLI of firearm injuries

1. Differentiate between inlet and exit wounds.

2. Mention medicolegal importance of powder marks.

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Tutor

Date / / 20

9- MLI of pregnancy & abortion

1. Mention characters of 8th month intrauterine foetus.

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2. Mention different types of abortifacient drugs.

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Tutor

Date / / 20

10- Roots, capsules and seeds

I- Describe, mention active principle(s)& differential diagnosis (if present):

1. Strychnusnux vomica:

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2.Datura fastiosa:

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3.Cannabis

seed:.....

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II. Differentiate between aconite and Jalap roots.

III. Describe& mention active principle(s):

1. Colocynth capsule:

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2.Papaversomniferium capsule:

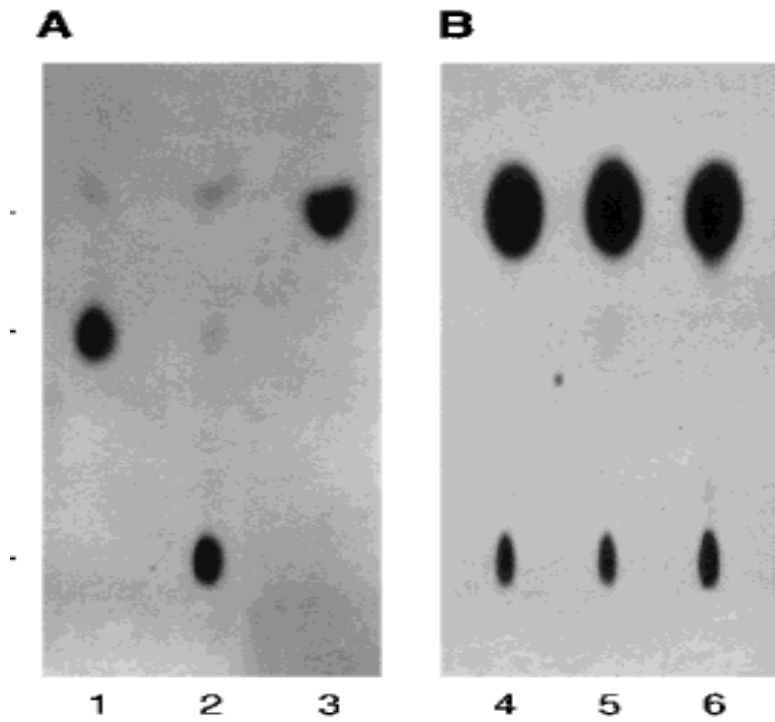
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Tutor

Date / / 20

11- Thin Layer Chromatography (TLC)

1. Define and calculate the RF



Sample No. ()

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Tutor

II-Clinical Toxicology

a- Clinical Training at Emergency Hospital

Objectives:

- 1. Demonstration of antidotes**
- 2. Demonstration of instruments used for airway support.**

b- Discussion of Case Problems

Date / / 20

Discussion of case problems

Answer the questions in your assessment model according to the problem given to you.

Case	The Answer
1- A toxicological case of	
2- A toxicological case of	

Tutor

Date / / 20

Discussion of case problems

Answer the questions in your assessment model according to the problem given to you.

Case	The Answer
3- A toxicological case of	
4- A toxicological case of	

Tutor

Date / / 20

Substance abuse cases

Case1.....

Question:.....

Answer.....

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Case 2.....

Question:.....

Answer.....

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Case 3.....

Question:.....

Answer.....

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Tutor

Date / / 20

**Nicotine dependence scoring
(Fagerström test)**

Questions	Answer	Scoring	Case1	Case 2
(1) After you wake up, how soon do you smoke your first cigarette?	Within 5 min. " 6-30 min. " 31-60 min. After 60 min.	3 2 1 0		
(2) Do you find it difficult to refrain from smoking in places where it is forbidden, e.g., in bus, at the library, at the cinema, etc.?	Yes No	1 0		
(3) Which cigarette would you hate most to give up?	The first one in the morning All others	1 0		
(4) How many cigarettes/day do you smoke?	10 or less 11-20 21-30 31 or more	0 1 2 3		
(5) Do you smoke more frequently during the first hours after waking than during the rest of the day?	Yes No	1 0		
(6) Do you smoke if you are so ill that you are in bed most of the day?	Yes No	1 0		
Total score:				
Interpretation of the score:				

Tutor

III- Skills Lab

Technique of gastric lavage

1- Procedure of nasogastric intubation

1. Wearing of gloves.
2. Standing on the left side of the patient near to the head.
3. Positioning of the patient (awake or comatose).
4. Placing a towel across the chest up to the patient's neck.
5. Explaining the nasal intubation procedure to the patient.
6. Asking about:
 - d- Any prior nasosurgery
 - e- Nasal trauma
 - f- Difficulty in breathing through a particular nostril.
7. Asking the patient to inhale alternatively through each nostril, noting which side provides superior flow, then to blow his nose and inspecting nares for obstruction or septal deviation.
8. Applying nasal decongestant to nasal mucosa that allow easier insertion of the tube and reduce the risk of epistaxis.
9. Installing viscous lidocaine 2% into the more patent nostril with the head tilted backwards and ask the patient to sniff and swallow to anesthetize.
10. Estimating tube insertion length by measuring “ear-nose-xiphoid distance” and mark with tape.
11. Creating gentle curve in the proximal end of the tube by coiling 4-6 inches tightly around the hand.
12. Lubricating the proximal end of the tube with gel.
13. Passing the lubricated tube along floor of nose till nasopharynx then rotate the tube 180; so the curved end of the tube passes towards the esophagus.
14. Asking the patient to swallow or to sip water, to facilitate quick entry of the tube.
15. Confirming right placement by:
 - Asking the patient to talk. If the patient cannot make a sound, so the tube has passed wrongly through the vocal cords and into the trachea.

- Using a flashlight to look into the patient's mouth to view the tubing. It should appear straight in the back of the throat with no coiling into the mouth.
 - Drawing 10-20 cc of air into the syringe, place the stethoscope over the patient's stomach and quickly inject the bolus of air into the stomach. A whooshing sound should be audible over the stomach if the tube is in the stomach.
 - The most accurate way to check for tube placement is portable chest x ray.
16. Fixing the tube with tape. (The uncut end will be placed along the patient's nose and the tails wrapped around the tube in opposite directions to secure the tube to the nose after insertion.

2- Procedure of gastric lavage:

1. After confirmation of the tube position, aspirate as much as you can. This sample should be for laboratory diagnosis.
2. Pouring about 200-300 cc of warm water (only 50-100cc for infants and children). The fluid will enter the tube by gravity.
3. Allowing the stomach contents to regurgitate by gravity>
4. Washing is repeated with warm water or with a specific antidote until the fluid becomes clear and odourless.
5. Before extraction of the tube, activated charcoal should be left in the stomach to ensure adsorption of any poison.
6. Finally, the external end should be tightly closed by fingers before withdrawal to prevent the escape of any fluid from the lower end into the air passages.

Virtual Lab Activities

Answer MCQs:

No.	The Answer	Signature
Case no. (1) Date: / /201		
Case no. (2) Date: / /201		

IV- Forensic Medicine

Objectives to teach the students the following skills:

- a- Forensic cases problem discussions.**
- b- Applied forensic photography.** Students will be shown photographs of different forensic cases followed by discussion.
- c- Writing reports on Wounds**

The primary report must include the following:

1. Personal data and do not mention the patient name but his serial.
2. In reports on wounds, describe the injury; its location and mention the type of possible instrument, expected duration of healing (more or less than 20 days) and whether it is expected to leave a permanent infirmity or not.

a- Forensic

Case Problem Discussions

Date / / 20

Discussion of case problems

Answer the questions in your assessment model according to the problem given to you.

Case	The Answer
1- A forensic case of	
2- A forensic case of	

Tutor

Date / / 20

Discussion of case problems

Answer the questions in your assessment model according to the problem given to you.

Case	The Answer
1- A forensic case of	
4- A forensic case of	

Tutor

b- Applied Forensic Photography

Date / / 20

Applied forensic cases photography

Answer the questions in your assessment model according to the problem given to you.

Case	The Answer
1. A forensic case of	
2. A forensic case of	
3. A forensic case of	
4. A forensic case of	

Tutor

c- Writing Reports on Wounds

Date / / 20

التقارير الأصابية للجروح تقرير (١)

بناء على طلب قسم الطب الشرعى والسموم الإكلينيكية بكلية الطب- جامعة المنصورة

قمت أنا الطالب رقم الجلوس

بتوقيع الكشف الطبى الإصابى الإبتدائى بمستشفى الطوارى الجامعى على المريض (x), رقمه

المسلسل السن الجنس المهنة

العنوان.....

التاريخ: الساعة

ظروف الحادث (جناى / إنتحارى / عرضى) (حسب أقوال المصاب):.....

نوع الآلة المستخدمة فى إحداث الأصابات (حسب أقوال المصاب):.....

درجة الوعى:.....

وبالكشف عليه وجدت الإصابات الآتية:.....

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Date / / 20

تقرير (٢)

بناء على طلب قسم الطب الشرعى والسموم الإكلينيكية بكلية الطب- جامعة المنصورة

قمت أنا الطالب رقم الجلوس

بتوقيع الكشف الطبى الإصابى الإبتدائى بمستشفى الطوارى الجامعى على المريض (X), رقمه

المسلسل السن الجنس المهنة

العنوان.....

التاريخ: الساعة

ظروف الحادث (جناى / إنتحارى / عرضى) (حسب أقوال المصاب):.....

نوع الآلة المستخدمة فى إحداث الأصابات (حسب أقوال المصاب):.....

درجة الوعى:.....

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Tutor

Date / / 20

**Wound reports (for Malaysian)
(report 1)**

At the request of Forensic Medicine and Clinical Toxicology Department.
I doctor..... performed provisional clinical and injuries
examination in Mansoura Emergency Hospital on the patient
.....Age:.....Religion.....Sex.....

Job.....

Address:.....

Date..... Hour.....serial Number.....

Circumstances of injury (according to victim story):

(Accidental/homicidal/Suicidal).....

Type of Instrument used in making the injuries (according to victim story):

(Blunt or sharp)

Level of consciousness:.....

On examination injuries were found

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Time needed for healing:.....

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.....**Expected**
infirmity that would be left:.....

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Surgical or Medical interference done to the patient.....

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Old injuries or wounds or any associated medical condition or diseases.....

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Opinion in Summary

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Tutor

Date / / 20

**Wound reports (for Malaysian)
(report 2)**

At the request of Forensic Medicine and Clinical Toxicology Department.
I doctor..... performed provisional clinical and injuries
examination in Mansoura Emergency Hospital on the patient
..... Age:..... Religion..... Sex.....

Job.....

Address:.....

Date..... Hour..... serial Number.....

Circumstances of injury (according to victim story):

(Accidental/homicidal/Suicidal).....

Type of Instrument used in making the injuries (according to victim story):

(Blunt or sharp)

Level of consciousness:.....

On examination injuries were found

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Time needed for healing:.....

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Expected infirmity that would be left:.....

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Surgical or Medical interference done to the patient......

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Old injuries or wounds or any associated medical condition or diseases.....

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Opinion in Summary

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Tutor

Students Activities

Students' activities are a trial to achieve National Academic Reference Standards (NARS) which include knowledge, intellectual skills, practical and transferable skills. Students can do many forms of activities. Choosing any activity depends on the student himself and the supervising staff member. The aim of these activities is to achieve many scientific or social skills and community services. These activities may include one of the following:

- 1- Preparing power point presentations.
- 2- Scientific research e.g. questionnaire regarding exposure to certain pesticides in a village, questionnaire about substance abuse among students or measuring stature and foot length in relation to sex, age and race, etc.