



Dr Jack Drummond

Forensic Medicine Practitioner

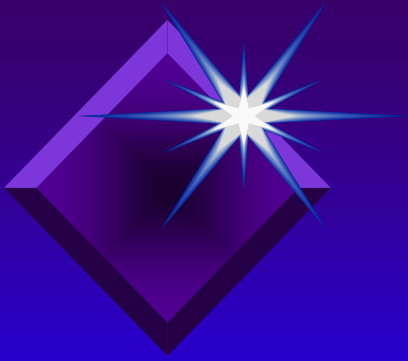
Police Medical Officer, New Zealand Police

Sunday, August 14, 2016

(Room 8)

8:30 - 9:25 WS #141: Recognising and Classifying Injuries - A Forensic View

9:35 - 10:30 WS #151: Recognising and Classifying Injuries - A Forensic View (Repeated)



***PRESENTATION FOR
RNZGP CONFERENCES IN
ROTORUA AND
CHRISTCHURCH***

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Master Forensic Medicine
(Monash)



OBJECTS OF THIS PRESENTATION

- ◆ To explain why all injuries should not be called lacerations
- ◆ To show examples of the injury that reflect its causation
- ◆ To allow you to think logically as to mechanisms of causation
- ◆ To give you tools to comment on causation and to convert this into a statement for the court



OBJECTS CONTD

- ◆ To give you firm definitions of injuries
- ◆ To explain the requirements of forensic medicine and its trace evidence value
- ◆ Collection of trace evidence and “Chain of Evidence”
- ◆ Your role as an expert witness.



Documentation

- ◆ Measure size and depth
- ◆ Comment on shape
- ◆ Note anatomical position
- ◆ Note colour
- ◆ Record bleeding and amount
- ◆ Ensure photography



Assessment and Opinion

- ◆ Type of injury
- ◆ Method of occurrence
- ◆ Causes or causes
- ◆ How many blows
- ◆ Age of injury
- ◆ Degree of force
- ◆ Consistency of the injuries with history



Types Of Injury

- ◆ Abrasions
- ◆ Lacerations
- ◆ Incised wounds
- ◆ Stab wounds
- ◆ Bruises
- ◆ Bite marks



Abrasions

- ◆ Def. (A superficial injury to the skin)
- ◆ Caused by a combination of pressure and movement applied simultaneously
- ◆ Have significant forensic application
- ◆ May have features that identify the direction, instrument or repetition



Abrasions Sub-class

- ◆ Scratches
- ◆ Imprint abrasions
- ◆ Friction abrasions



Superficial Abrasions





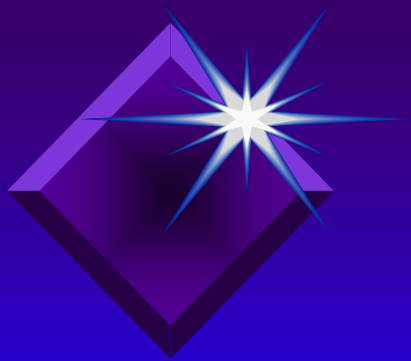
Lacerations

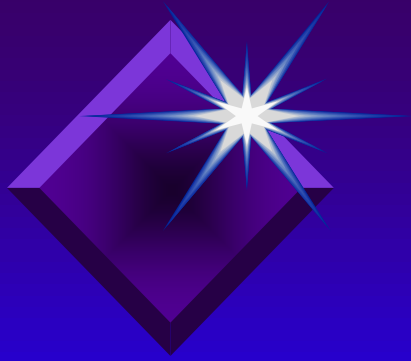
- ◆ Ragged or irregular tears
- ◆ Usually caused by blunt trauma
- ◆ Rarely self inflicted
- ◆ Often skin compressed between two hard objects
- ◆ Causes include impact with blunt object, falls, contact with e.g. walls, crushing

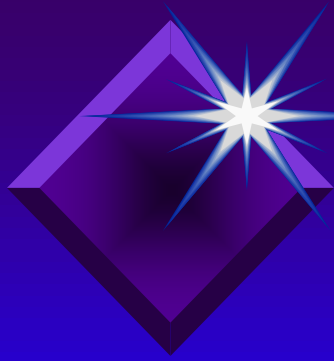


Laceration Features

- ◆ Irregular abraded margins
- ◆ Margins may be inverted
- ◆ Contents(e.g. nerves & tendons) may remain intact
- ◆ May have tissue bridges
- ◆ Foreign material in wound
- ◆ Shape may reflect cause







Lacerations and Bruising





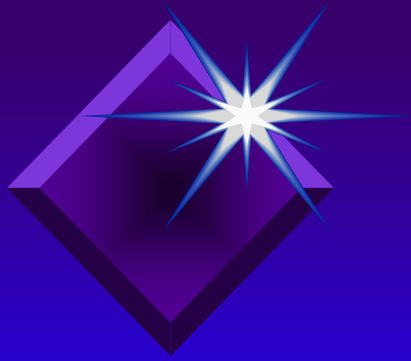
Incised Wounds

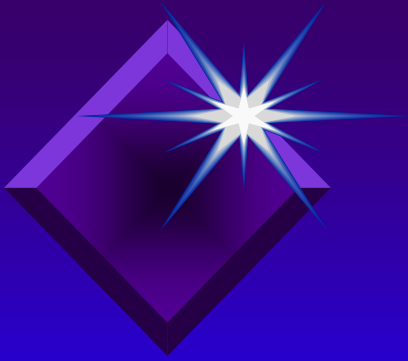
- ◆ Def. length > depth of wound
- ◆ Caused by sharp objects
- ◆ Sharply defined edges
- ◆ Min. Surrounding damage
- ◆ Rarely contaminated with foreign material
- ◆ Fibrous bridging seldom seen

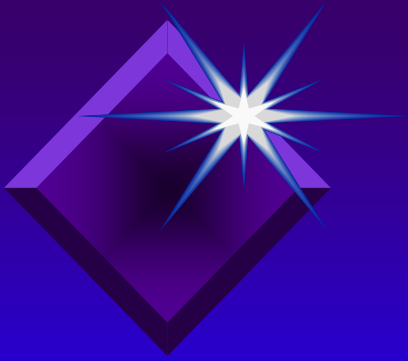


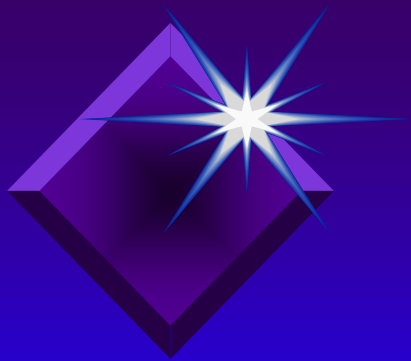
Incised Wounds Contd

- ◆ Chop wounds
- ◆ Heavy weapon with cutting edge
- ◆ May cause underlying fracture or organ damage
- ◆ Marginal abrasions and bruising





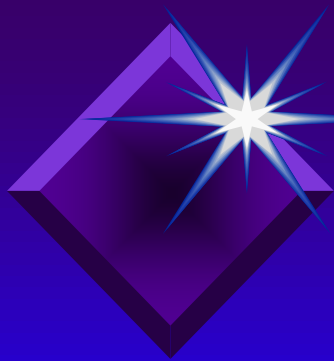




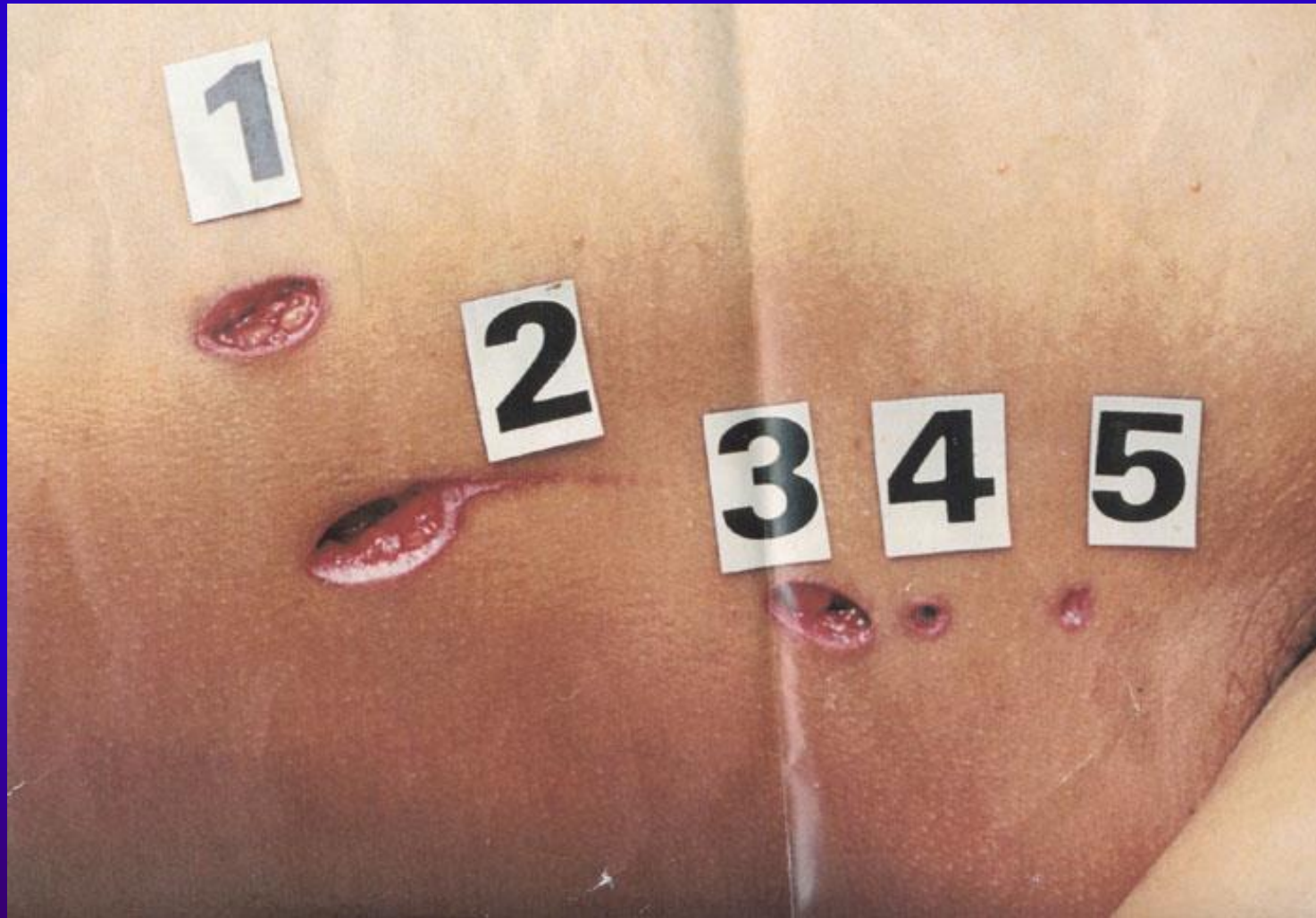


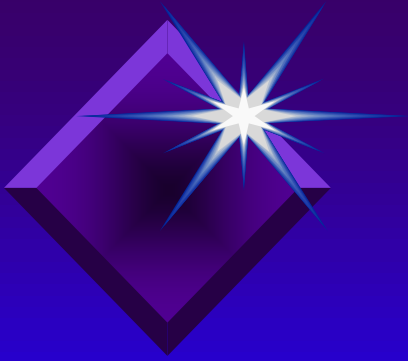
Stab Wounds

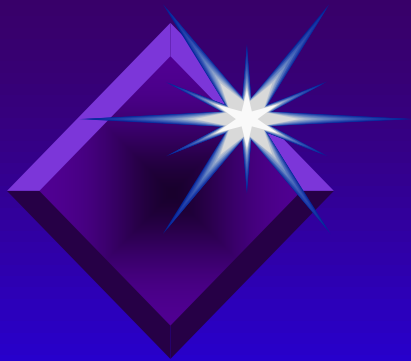
- ◆ Depth > length at surface
- ◆ Edges may identify weapon
- ◆ Try to measure depth
- ◆ May be asked to examine weapon



Stab Wounds









Bruises

- ◆ Area of haemorrhage in skin
- ◆ Results from blunt trauma
- ◆ Focal discolouration
- ◆ Varying colours
- ◆ Spreads along anatomical cleavage lines



Bruises (Traps)

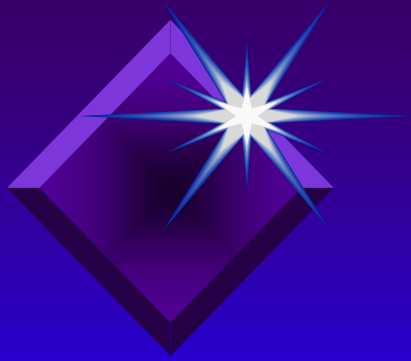
- ◆ Age is always uncertain
- ◆ Colour is unreliable
- ◆ Site may not be site of trauma
- ◆ Shape may not reflect causative implement
- ◆ Size may not reflect force applied



Extent of Bruising

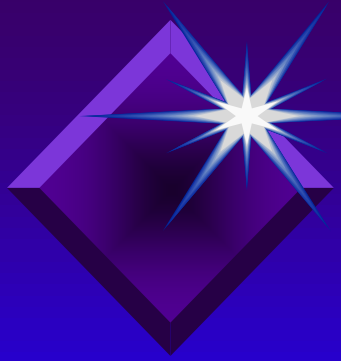
May be affected by:

- ◆ Diseases
- ◆ Drugs
- ◆ Site of trauma
- ◆ Tissue condition
- ◆ Medical intervention
- ◆ Time



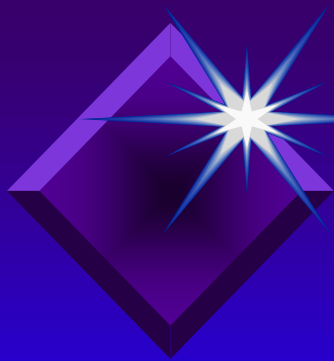
Bruises that Show Characteristics of their Causation

- ◆ Tramline bruises
- ◆ Bite marks
- ◆ Imprint bruises
- ◆ Petechial bruises



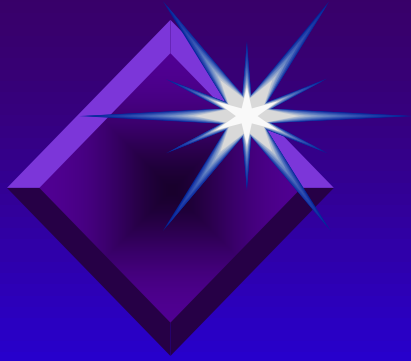
Pattern Injury





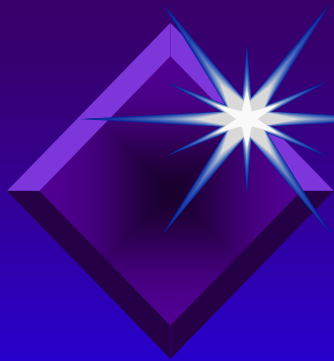
Shoes





Shoes Used in Pattern Injury





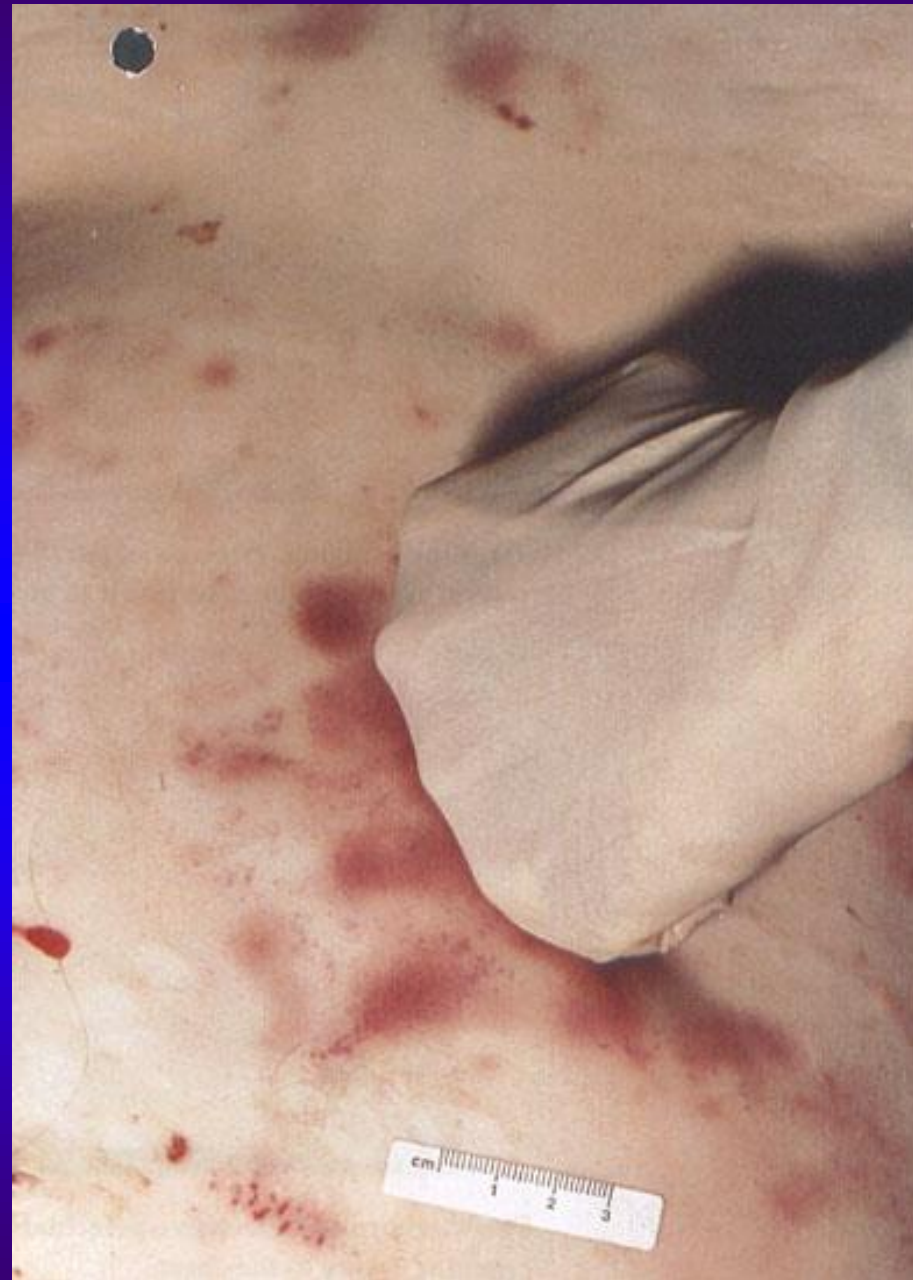
Buckle

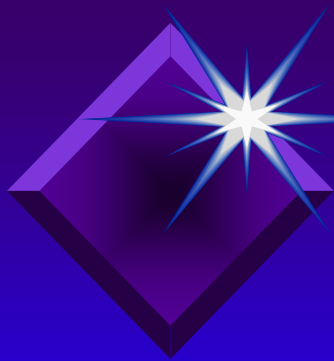




Fingernails





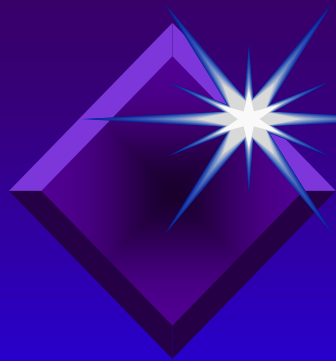


Strap



Shotgun Injury





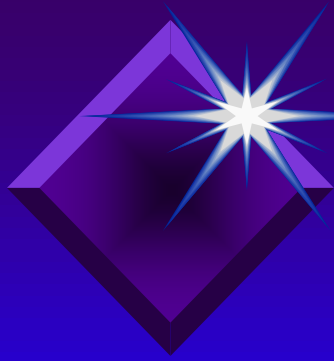
Shotgun Injury





Shotgun Injury





Petechial Bruising





Non-forensic Causes of Petechial Bruises

- ◆ Fat embolism
- ◆ Violent coughing or sneezing
- ◆ Bleeding diatheses
- ◆ Prolonged CPR
- ◆ Love bites



Petechial Bruising





Bite Injuries

- ◆ Wedge -shaped causing avulsion injury
- ◆ Tissue damage and bleeding
- ◆ High chance of identification
- ◆ Change with time
- ◆ Consider self infliction
- ◆ Photos & swab for DNA



Finger and Bite Marks

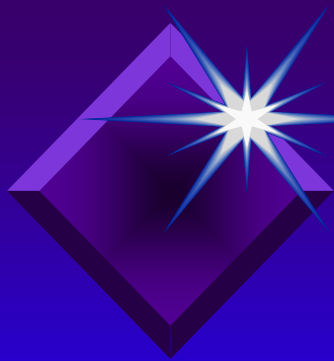






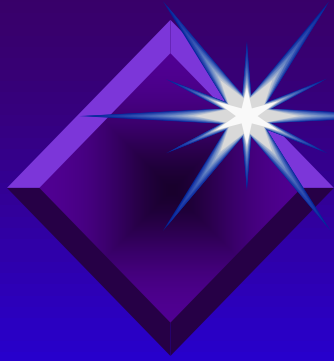
Defensive





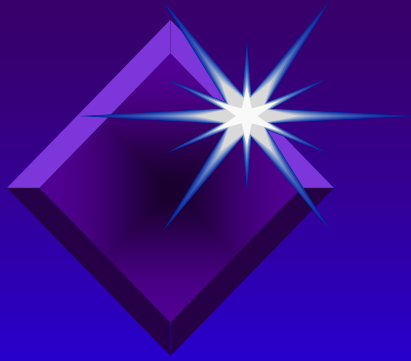
Defensive





Defensive





SELF INFLICTED INJURIES

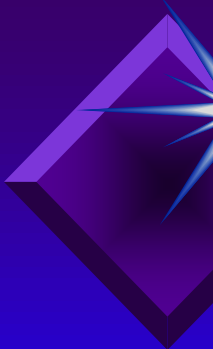
*1 Usually within reach of
dominant hand*

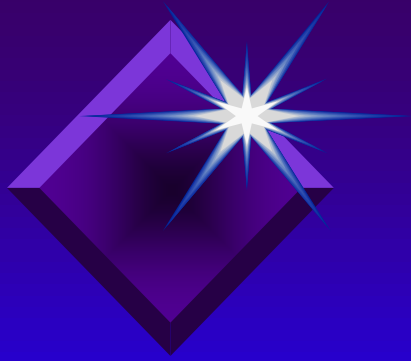
2 Usually incised wounds

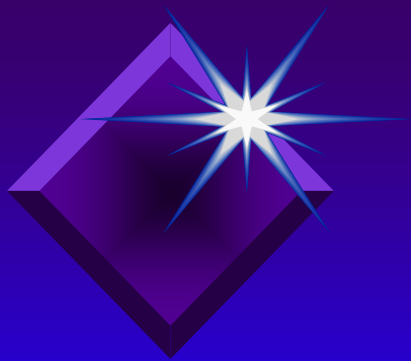
*3 Seldom involve eyes ,
genitalia, lips or nipples*

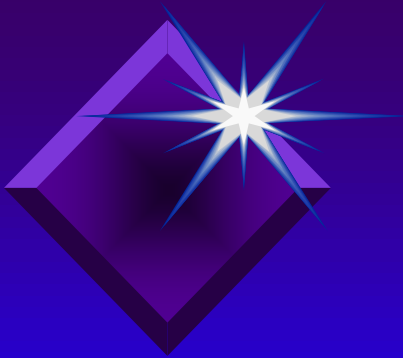
4 Often parallel

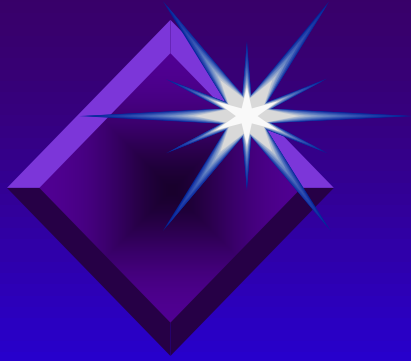
5 Usually superficial

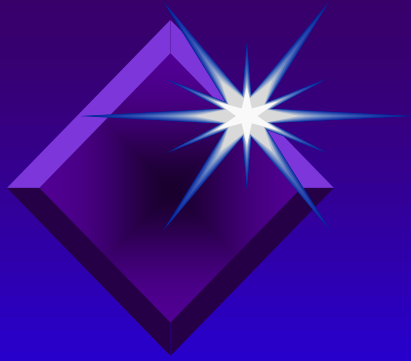


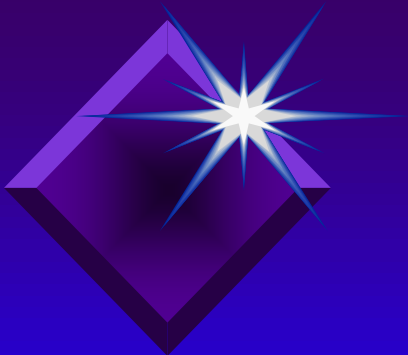


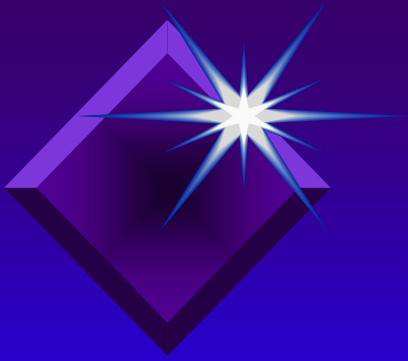


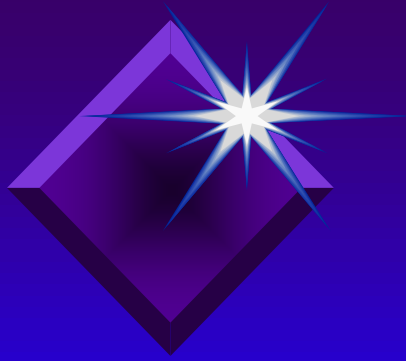














- ◆ Always get photos
- ◆ Measure accurately
- ◆ Blood hides many facts
- ◆ Don't overcommit on opinion
- ◆ Beware of non obvious injury
- ◆ "I cannot be sure "is the mark of the experienced



