APPENDIX
WORKING PROFORMA

EPIDEMIOLOGICAL STUDY OF ACCIDENTAL INJURIES (LOCOMOTOR SYSTEM) IN BUNDLKHAND REGION

CASE No.

GENERAL INFORMATION

Name: D.O.A: 
Pt's name: D.O.D: 
Age/Sex: Period of hospitalisation 
Address: Rural/Urban 
Education: 

Diagnosis: 
Religion: Hindu/Muslim/Sikh/Christian/Others 
Occupation: Farmer/Labour/Service/Business/Others 
Income per month: 
Total No. of dependents: One/Tow/three/four/five/more than five. 
Social class: I/II/III/IV/V 
Marital Status: Married/Unmarried/Widow

INJURY

Type of injury: Incised/Lacerated/Blunt 
Time of Injury: Morning (5-10AM)/Noon (10AM to 2 PM)/Evening (2-7PM)/Night (7PM to 5 AM). 
Extent of Injury: 
Nature of Injury: Supervidial/Muscle deep/bone deep/Amputation. 
Cause of Injury: Thresher/Belt of pumping set/tractor trolley/Sickle/Shovel/Animal/Tangi/Sword/Knife/Others. 
Place of Injury: Home/Farm/Factory/Road side. 
Time lapsed between onset of injury and treatment taken.
PERSONAL HISTORY

a. Poor physical health/fever/
   Diarrhoea/Headache/Others. Yes/No
b. Defective vision/Night
   blindness/Cataract/Others Yes/No
c. Hearing defect: Wax or foreign body in ear/
   otitis media/otosclerosis/
   Eustachian obstruction. Yes/No
d. Physical Disability: Previous malunited fracture/
   Previous Amputation of any
   part of upper/lower limb/
   paralysis. Yes/No

MENTAL

Any History of taking

a. Alcohol/Bhang/Ganja/Charas/
   Biri/Cigarette/Tobacco Yes/No
b. Fatigue: After more exertion/
   more awakening in night. Yes/No

EMOTIONAL

Was there any H/O following: Anger/Fear
before the onset of injury? Stress Yes/No

Was any following environmental condition
present at the time of injury?

Inadequate lighting/Slippery floor/
Unguarded Machine/Defective vehicle/
Electrocution? Yes/No

Uptake of intoxicant prior to injury Yes/No

PHYSIOLOGICAL

After/Before meal: Yes/No (Hours between meal
and accident).

TREATMENT

a. Conservative: Yes/No (C & D/Stitching/Plaster/
   closed reduction).

b. Operation: Yes/No (Surgical Toilet Debridement
   Amputation/Open Reduction/
   Internal Fixation etc.).
GUIDELINES FOR EVALUATION OF PERMANENT PHYSICAL IMPAIRMENT OF TRUNK (SPINE)

The local effects of lesions of spine can be divided into traumatic and non-traumatic lesions.

TRAUMATIC LESIONS

**Cervical Spine Fracture**

<table>
<thead>
<tr>
<th>Description</th>
<th>Percent Whole Body</th>
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<tbody>
<tr>
<td>Permanent Physical Impairment and Loss of Physical Function to Whole Body.</td>
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</tbody>
</table>

A. Vertebral compression 25%, one or two vertebral adjacent bodies, no fragmentation, no involvement of posterior element, no nerve root involvement, moderate neck rigidity and persistent soreness.

B. Posterior elements with X-ray evidence of moderate partial dislocation.
   a. No nerve root involvement, healed                                             15
   b. With persistent pain, with mild motor and sensory manifestations.          25
   c. With fusion, healed, no permanent motor or sensory changes.                20

C. Severe dislocation, fair to good reduction with surgical fusion.
   a. No residual motor or sensory changes                                          25
   b. Poor reduction with fusion, persistent radicular pain, motor involvement, only slight weakness and numbness. 35
   c. Same as (b) with partial paralysis, determine additional rating for loss of use of extremities and sphincters.

**Cervical Intervertebral Disc**

1. Operative, successful removal of disc, with relief of acute pain, no fusion, no neurologic residual. 10

2. Same as (1) with neurological manifestations, persistent pain, numbness, weakness in fingers. 20
Thoracic and Dorsolumbar Spine Fracture

A. Compressionsion 25%, involving one or two vertebral bodies, mild, no fragmentation, healed, no neurological manifestations. 10

B. Compression 50%, with involvement posterior elements, healed, no neurologic manifestations, persistent pain, fusion indicated. 20

C. Same as (B) with fusion, pain only on heavy use of back. 20

D. Total paraplegia 100

E. Posterior elements, partial paralysis with or without fusion, should be rated for loss of use of extremities and sphincters.

Low Lumbar

1. Fracture:

A. Vertebral compression 25%, one or two adjacent vertebral bodies, little or fragmentation, no definite pattern or neurologic changes. 15

B. Compression with fragmentation posterior elements, persistent pain, weakness and stiffness healed, no fusion, no lifting over 25 pounds. 40

C. Same as (B), healed with fusion, mild pain 25

D. Same as (B), nerve root involvement to lower extremities, determine additional rating for loss of industrial function to extremities.

E. Same as (C), with fragmentation of posterior elements, with persistent pain after fusion, no neurologic findings. 35

F. Same as (C), with nerve root involvement to lower extremities, rate with functional loss to extremities.

G. Total paraplegia 100

H. Posterior elements, partial paralysis with or without fusion, should be rated for loss of use of extremities and sphincters.

2. Neurogenic Low Back Pain - Disc Injury

A. Periodic acute episodes with acute pain and persistent body list, tests for sciatic pain positive, temporary recovery 5 to 8 weeks.
B. Surgical excision of disc, no fusion, good results no persistent sciatic pain.

C. Surgical excision of disc, no fusion, moderate persistent pain and stiffness, aggravated by heavy lifting with necessary modification of activities.

D. Surgical excision of disc, fusion activities of lifting moderately modified.

E. Surgical excision of disc with fusion, persistent pain and stiffness aggravated by heavy lifting, necessitating modification of all activities requiring heavy lifting.
GUIDELINES FOR EVALUATION OF PERMANENT PHYSICAL IMPAIRMENT IN AMPUTEES

BASIC GUIDELINES

1. In case of multiple amputees, if the total sum of percentage permanent physical impairment is above 100%, it should be taken as 100%.

2. Amputation at any level with uncorrectable, inability to wear and use prosthesis, should be given 100% permanent physical impairment.

3. In case of amputation in more than one limb percentage of each limb is counted and another 10% will be added, but when only toes or fingers are involved only another 5% will be added.

4. Any complication in form of stiffness, neuroma, infection etc. has to be given a total of 10% additional weightage.

5. Dominant upper limb has been given 4% extra percentage.

<table>
<thead>
<tr>
<th>Upper Limb Amputations</th>
<th>Percent Permanent Physical Impairment and loss of physical function of each limb.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Fore-quarter amputation</td>
<td>100%</td>
</tr>
<tr>
<td>2. Shoulder Disarticulation</td>
<td>90%</td>
</tr>
<tr>
<td>3. Above Elbow upto upper 1/3 of arm</td>
<td>85%</td>
</tr>
<tr>
<td>4. Above Elbow upto lower 1/3 of arm</td>
<td>80%</td>
</tr>
<tr>
<td>5. Elbow disarticulation</td>
<td>75%</td>
</tr>
<tr>
<td>6. Below Elbow upto upper 1/3 of forearm</td>
<td>70%</td>
</tr>
<tr>
<td>7. Below Elbow upto lower 1/3 of forearm</td>
<td>65%</td>
</tr>
<tr>
<td>8. Wrist disarticulation</td>
<td>60%</td>
</tr>
<tr>
<td>9. Hand through carpal bones</td>
<td>55%</td>
</tr>
<tr>
<td>10. Thumb through C.M. or through 1st MC joint</td>
<td>30%</td>
</tr>
<tr>
<td>11. Thumb disarticulation through metacarpophalangeal joint or through proximal phalanx.</td>
<td>25%</td>
</tr>
<tr>
<td>12. Thumb disarticulation through inter phalangeal joint or through distal phalanx.</td>
<td>15%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Finger</th>
<th>Index</th>
<th>Middle</th>
<th>Ring</th>
<th>Little</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(15%)</td>
<td>(5%)</td>
<td>(3%)</td>
<td>(2%)</td>
</tr>
<tr>
<td>13. Amputation through proximal phalanx or disarticulation through MP joint.</td>
<td>15%</td>
<td>5%</td>
<td>3%</td>
<td>2%</td>
</tr>
</tbody>
</table>
14. Amputation through middle phalanx or disarticulation through PIP joint. 

15. Amputation through distal phalanx or disarticulation through DIP joint.

**Lower Limb Amputations**

1. Hind quarter 100%
2. Hip disarticulation 90%
3. Above knee upto upper 1/3 of thigh 85%
4. Above knee upto lower 1/3 of thigh 80%
5. Through knee 75%
6. R.K. upto 8 cm 70%
7. B.K. upto 1/3 of leg 60%
8. Through Ankle 55%
9. Syme's 50%
10. Upto mid foot 40%
11. Upto fore-foot 30%
12. All toes 20%
13. Loss of first toe 10%
14. Loss of second toe 5%
15. Loss of third toe 4%
16. Loss of fourth toe 3%
17. Loss of fifth toe 2%
## APPROPRIATE RATINGS OF PERMANENT PHYSICAL IMPAIRMENT

AND THEIR PHYSICAL LOSS OF FUNCTION

<table>
<thead>
<tr>
<th>Percent Permanent Physical Impairment and Loss of Physical function to Lower Extremity.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LOWER EXTREMITIES</strong></td>
</tr>
</tbody>
</table>

1. **Shortening**

<table>
<thead>
<tr>
<th>Length</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>½ inch</td>
<td>5</td>
</tr>
<tr>
<td>1 inch</td>
<td>10</td>
</tr>
<tr>
<td>1½ inches</td>
<td>15</td>
</tr>
<tr>
<td>2 inches</td>
<td>20</td>
</tr>
</tbody>
</table>

2. **Hip** (Rating value to whole body 50%)

   A. Non union without reconstruction 75
   B. Arthroplasty, use of prosthesis able to walk and stand at work, motion free to 25% to 50% of normal. 40
   C. Osteotomy reconstruction, moderate motion, 1 inch shortening no contracture. 35
   D. Ankylosis and limited motion
      a. Total ankylosis, optimum position 15° flexion. 50
      b. Limitation of motion
         1. Mild, A.P. motion from 0° to 120° flexion, rotation and lateral motion abduction, adduction free to 50% of normal. 15
         2. Moderate, A.P. motion from 15° flexion deformity to 110° further flexion, rotation, lateral motion, abduction, and adduction (free to 25% normal). 30
         3. Severe, A.P. motion from 30° flexion deformity to 90° further flexion. 50

3. **Knee**

   A. Surgical removal internal or external semilunar cartilage, no complications. 5
   B. Surgical removal both cartilages cruciate intact. 20
   C. Ruptured cruciate ligament, repaired, moderate laxity. 20
   Not repaired, marked laxity 30
D. Excision of patella 20
E. Plateau fracture, depressed bone elevated, semilunar excised. 20
F. Ankylosis and limited motion, total ankylosis optimum position, 15° flexion. 50
G. Limitation of motion
   a. Mild, 0° to 110° flexion 5
   b. Moderate, 0° to 80° flexion 15
   c. Severe, 0° to 60° flexion 35
   d. Severe limited from 15° flexion deformity with further flexion to 90° 40

Percent Permanent
Physical Impairment and
Loss of Physical Function
 to Foot (80% of leg)

4. Ankle and Foot
A. Eversion deformity 25° as in fracture lower end of fibula with evulsion medial ligaments, 20° eversion. 20
B. Inversion deformity 20° 15
C. Total ankylosis ankle and foot (Pantalar arthrodesis)
   a. 10° plantar flexion 50
   b. Mal-position 30° plantar flexion 60
D. Ankylosis of foot, subtalar or triple arthrodesis tarsal bones, ankle, free motion. 25
E. Ankylosis of tibia and talus, subtalar joints free, optimum position 15° plantar flexion. 40
F. Limitation of motion in the ankle
   a. Mild, motion limited from position of 90° right angle to 20° plantar flexion. 10
   b. Moderate, Motion limited from position of 10° plantar flexion to 20° plantar flexion. 25
   c. Severe Motion limited from position of 20° plantar flexion to 30° plantar flexion. 50
Percent Permanent
Physical Impairment and
Loss of Physical Function
of foot

5. Foot
A. Ankylosis of tarsal metatarsal or
or mid tarsal joints
   Mild
   Severe
   10
   20
B. Limited Motion in the foot
   a. Mild, Limited motion with mild pain
   b. Moderate, Limitation of motion with pain
   c. Severe, Limitation of motion with pain
      10
      20
      35

Percent Permanent
Physical Impairment and
Loss of Physical Function
to Toe

6. Toes
A. Complete ankylosis of metatarsopha-
  langeal joint, any toe.
   50
B. Complete ankylosis any toe, interphalangeal
   joint, favourable, position semi-flexion.
   10

UPPER EXTREMITIES
Percent Permanent
Physical Impairment and
Loss of Physical function
to Whole Arm

7. Shoulder
A. Total ankylosis in optimum position, abduc-
   tion 60° flexion 10°, rotation, neutral position.
   50
B. Total ankylosis in mal-position
   Grade upward
C. Limitation of motion
   a. Mild, No abduction beyond 90°, rotation
      only 40° with full flexion and extension.
      5
   b. Moderate, No abduction beyond 60°
      rotation only 20°, with flexion and
      extension limited to 30°.
      20
   c. Severe, No abduction beyond 25°
      rotation only 10°, flexion and
      extension limited to 20°.
      50
D. Recurrent dislocation as frequently as
   every 4 to 6 months.
   35
E. Resection distal end of clavicle (rate motion independently).

8. Elbow

Flexion and extension of forearm considered as 85% of arm, rotation of forearm considered as 15% of arm.

A. Total ankylosis in optimum position approximating mid-way between 90° flexion and 180° extension (45° angle) (45° angle).

B. Total ankylosis in mal-position

C. Limitation of motion.

   a. Mild. Motion limited from 10° flexion to 100° further flexion.

   b. Moderate. Motion limited from 30° flexion to 75° further flexion.

   c. Severe. Motion limited from 45° flexion to 90° further flexion.

D. Flail elbow, pseudarthrosis above joint line, wide motion but every unstable.

E. Resection head of radius

Percent Permanent Physical Impairment and Loss of Physical Function
to hand

9. Wrist

Excision distal end of ulna, flexion and extension credited with 75% of hand, and rotation 25% of hand

A. Total ankylosis in optimum position

B. Total ankylosis in mal-position of extreme flexion or extension.

C. Limitation of motion.

   a. Mild. Rotation normal, 15° palmar flexion to 20°, dorsiflexion.

   b. Moderate. Rotation limited in 30° in semi-pronation, palmar flexion 10° dorsiflexion 10°.

   c. Severe. Rotation limited to 10° in position of full pronation, palmar flexion 50°, dorsiflexion 50°.
10. Fingers - Ankylosis of joint

A. Any digit (excluding the thumb)
   a. Total ankylosis of distal joint
      1. Optimum position 25
      2. Mal-position (fixed 35° or more) 35
   b. Total ankylosis of proximal interphalangeal joint
      1. Optimum position (flexed 35°) 50
      2. Mal-position (approximately full extension or full flexion) 75
   c. Total ankylosis of both distal and proximal interphalangeal joints
      1. Optimum position 75
      2. Mal-position 100
   d. Total ankylosis metacarpophalangeal joint
      1. Optimum position (45° flexion) 45
      2. Mal-position (approximately full extension or full flexion) 75
   e. Total ankylosis both interphalangeal joints and metacarpophalangeal joint 100

B. Thumb
   a. Total ankylosis interphalangeal joint
      1. Optimum position (0° to 15°) 40
      2. Mal-position (flexion greater than 15°) 65
   b. Total ankylosis metacarpophalangeal joint
      1. Optimum position (upto 25° flexion) 50
      2. Mal-position (flexion greater than 25°) 65
   c. Total ankylosis both interphalangeal and metacarpophalangeal joints
      1. Optimum position 75
      2. Mal-position 85