Caswell (E. J.) With Compliments of the Author.
FRACTURES

AT THE

RHODE ISLAND HOSPITAL,

1868-1878.

BY

EDWARD T. CASWELL, M.D.

SURGEON TO THE HOSPITAL.

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FRACTURES AT THE RHODE ISLAND HOSPITAL.

BY EDWARD T. CASWELL, M. D., PROVIDENCE, R. I.

THE Rhode Island Hospital was opened for the admission of patients on October 1, 1868. When it had completed the first ten years of its existence, I thought I would collect and publish some statistics of what had been done during those years by my colleagues and myself. The laborious undertaking of going over the hospital records and other engrossing duties have postponed the publication of this, which may be considered a first contribution, until this late day. I greatly regret the inaccuracy of the records, and their failure in a large majority of cases to supply precisely the most important information, as, for example, the side of the body which sustained injury, and the length of limb in fractures of the lower extremity, both on admission and discharge. Nothing can be more unsatisfactory or more worthless for all purposes of comparison than to have the result of treatment of a case of fracture en-tered as "good," or "well," or "recovered." But such, I regret to say, has frequently been the entry. In spite of these failures, however, I venture to present the following tables, hoping that they may not be without some interest. They represent all the fractures admitted to the wards of the hospital for ten years; they do not include fractures treated in the outpatient department.

I find recorded 185 cases of fracture occurring in 167 persons. There have been 152 cases of single fracture, 12 in which there were two different fractures, and 3 in which there were three different fractures. Each of the-e are entered under their respective sections. Of course this does not apply to the case of fractured ribs, where one, two, or more may be broken, nor to that of a leg or fore-arm where both bones are broken. Just as these sheets were nearly ready for the press, I find that one case of fracture of both thighs and one of compound fracture of both legs have each been entered as one fracture. So that there are actually 187 cases of fracture in 167 individuals. Fractures of the foot and hand have not been included. A separate list has been added of injuries rapidly fatal, although they have been included in their appropriate sections. I have also appended the statistics of the very small number of dislocations that have been admitted to the wards of the hospital for the same period.

From the summary we see that of all the fractures nearly one half were fractures of the lower extremity, and of these more than half were fractures of the leg. Of the latter more than half were fractures of both bones. According to frequency, these fractures would be arranged as follows: Leg. thigh, fore-arm, arm, ribs, clavicle, skull, vertebre, scapula. No fractures of the pelvis are recorded. The relative frequency of the fractures of the different sides of the body will be referred to further on.

MORTALITY.

Of the 167 individuals who were admitted for fractures, 25 died, or 15 per cent. Of these, 15 died in the course of twenty-four hours, and of this number, 11

were caused by railroad accidents. These deaths, although not so stated in the record, are without doubt to be ascribed to shock and the loss of blood attendant upon the accidents. Of the remaining 10 cases, 2 died from intemperance, 1 from pneumonia following a fracture of the ribs, 1 from pyæmia, 1 from convulsions on the third day after a compound fracture of the skull, 1 suddenly, without cause ascertained, on the second day after a simple fracture of the thigh; and in the remaining 4 cases death ensued from the injury, at intervals varying from thirty-six hours to six days, as follows: (1) vertebra and compound fracture of tibia, six days; (2) vertebra, three days; (3) skull, three days; (4) base of skull, thirty-six hours.

REVIEW OF FRACTURES IN GROUPS.

I now propose to pass in review the different groups of fracture, stating such points as are the most salient in the tables.

CRANIUM.

There were ten cases, all in males, of which seven were compound. All died except two of the latter. Of these, one was a compound comminuted fracture of the left orbital region, accompanied with the loss of brain substance. The accident happened six weeks before his admission to the hospital, and was occasioned by a heavy piece of machinery falling upon him while erecting the engine at the pumping station at Sockanossett. Pieces of bone were removed at the time. He remained in the hospital one hundred and fifty-two days, and left entirely restored, with the loss of the left eye. He has continued to be perfectly well, and still fills the post of engineer at the station. The other successful case was caused by a pistol-shot in the frontal and parietal region. The trephine was used, the bullet extracted, and the patient left the hospital in twenty-three days.

MAXILLÆ.

There were nine cases, all in males. One died from delirium tremens. One was a compound fracture of both bones, and left the hospital at the expiration of twenty-six days. Of the seven simple cases, the average residence was twenty-six days. Wiring the teeth, pasteboard and gutta-percha splints, were the methods of treatment.

RIBS

There were thirteen cases, of which ten were males and three females. Of these three died, two from other serious injuries, and one from pneumonia, in twenty days. Of the remaining ten, the average residence in the hospital was thirty-three days. In seven cases more than one rib was broken. The majority of cases were treated by strips of adhesive plaster.

SCAPULA.

Of only four cases recorded, all of males, one died from fracture of the skull. In two cases the left is specified. The average residence of three was thirtythree days.

FRACTURES OF THE HEAD.

Remarks.	Thirty-six hours after admission. Left hospital next morning.	Twenty-six convulsions April 5th. Died on day of admission. Attended with Accident six weeks before admission. Attended with laceration and loss of brain, loss of left eye, and	fracture orbital plate. Comatose on admission. Died in six hours.	Bullet lodged in bone. Accident two weeks before	Compound dislocation right radius, fracture left ulna	Fracture left acromion, comminuted fracture left tibia.	Fracture of clavicle, No. 10.		Small spicula of bone discharged from an abscess	which formed on inner surface, right side. Delirium tremens.		Removed by friends. Fracture left femur, No. 9. Small pieces of bone discharged May 23d and 24th from abscess on inside over seat of fract-	ure. Discharged because he refused to submit to wiring fragments.		Paralysis of lower extremities and bladder. Compound fracture of tibia and fibula. (No. 1.)	Shortly after entrance, twenty-four hours after acci-	uent. Fracture of ribs and acromial end of clavicle.	In an hour after admission. Had paralysis of lower extremities and bed sores. Latter healed, and able to walk well when discharged.		Compound fracture of leg. Pneumonia. Fracture of tibia and fibula. (No. 8.)	Accident two weeks before admission, followed by cough and expectoration.
Result.	Died. Died.	Died. Died. Good.	Died.	Good.	Died on admis-	Died 8 hours after admission.	Good.		Good.	Died.	Good.	Good.	Union.		Died.	Died.	Died in 9 hours.	Died. Improved.		Died in 4 hour. Died. Good.	Good.
Date of Discharge.	October 26, 1873. December 8, 1874. September 25, 1875.	April 5, 1875. October 16, 1875. March 30, 1876.	June 15, 1876.	August 30, 1876.	May 16, 1878.	July 15, 1878.	(COMPOUND), and August 13, 1876.		December 8, 1868.	August 21, 1869. October 21, 1871.	February 27, 1872. August 8, 1873.	March 26, 1874. May 28, 1877.	August 8, 1878.	E.	September 21, 1869.	October 24, 1869. February 22, 1871.	April 10, 1875.	January II, 1876. September 11, 1878.		February 17, 1872. May 11, 1873. September 2, 1873.	October 28, 1873.
Treatment.	I, CRANIUM. Simple.	Compound,	Fragm'ts removed, depressed	August 19th, trephined; bul-	let removed.	Trephined; piece of bone re- moved from between dura mater and inner table.	INFERIOR MAXILLA (COMPOUND). Inferior teeth wired, and August pusteboard splint.	INFERIOR MAXILLA.	Teeth on left side wired ;	Four-tailed bandage. Pasteboard splint.	Gutta-percha splint. Gutta-percha splint; teeth	wired. Gutta-percha splint. Pasteboard splint.	Pasteboard splint.	OF THE VERTEBRA					S OF THE RIBS.	Pad and bandage. Many-tailed bandage.	Broad swathe.
Definition of Fracture.	Base. Left supra-orbital arch.	"No depression." Comminuted. Comminuted, left frontal bone.	Left ant, surface depressed.	Frontal and parietal.	Depressed behind left ear.	Depressed.	II. SUPERIOR AND Super., entire length hard pal- ate in median line; finger could be laid in cavity. Infer., left of symphysis.	п. п	(1) In left of symphysis and	Near symphysis. At lateral incisors, alveolar	process not ruptured. At symphysis.	Each side median line. Between canine and first bi- cuspid; not oblique.	Right, half an inch anterior to angle.	FRACTURES	Spinous process of one of lower dorsal wanting.	Seventh dorsal vertebra. Fourth cervical, also dislo-	Eleventh dorsal vertebra, and dislocation of tenth	Last dorsal and first lumbar.	FRACTURES OF	Four lower, near vertebrae. Sixth and seventh, near ster-	Eighth, ninth, and tenth.
Cause.	Railroad accident. Railroad accident. Thrown fr. carriage.	Brick falling. Fall from house. Heavy castings fell on him.		Gun-shot, suicidal.	Fall from third story.	Mining accident.	Struck by derick.		Blow.	Run over.	Blow. Struck by hawser.	Fall.	Blow.		Struck by a beam falling.	Fell 8 ft. on back. Railroad accident.	Railroad accident.	Struck by h'vy stone. Struck by falling timber.		Railroad accident. Railroad accident. Run over.	Stamped upon.
Date of Admission.	October 23, 1873. December 7, 1874. September 24, 1875.	April 2, 1875. October 16, 1875. October 29, 1875.	June 15, 1876.	August 7, 1876.	May 16, 1878.	July 15, 1878.	July 18, 1877.		November 4, 1868.	August 16, 1869. October 2, 1871.	February 1, 1872. July 10, 1873.	March 6, 1874. April 20, 1877.	July 15, 1878.			October 21, 1869. February 22, 1871.	April 20, 1875.	January 11, 1876. January 16, 1878.		February 17, 1872. April 19, 1873. August 20, 1873.	September 20, 1873.
Age. Nativity.	25 American. 27 English. Irish.	50 Irish. 36 Irish. 45 English.	99	38 German.	13 Scotch.	45 Irish.	35 Irish.		26 Irish.	26 American.	24 Irish. 30 Portuguese.	8 American. 42 American.	50 Irish.			58 American. 34 English.	24 Irish.	35 American. 42 English.		13 American. 60 Irish. 46 Fr. Canadian.	40 Irish.
Sex. A	M. 2	M. M.	M.	M.	M.	M.	M.		M.	M.	M.	M.	M.			M.	M.	M.		M. H.	M.
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Dislocation tenth dorsal vertebra. Fracture of elev-	enth and acromial end of clavicle. Eloped. Complicated with fracture of tibia and fibula. No. 13.	Actident two months prior to admission. When discharged, no union. Discharged at his own request. Fractured clavicle. No. 5. Depressed fracture of skull. Comminuted fracture of left thin.		Motion almost perfect. Accident four days before admission. Fracture of ulna and radius two inches from wrist.
Good. Died in 9 hours.	Good. Good. Good. Good. Good.	Unrelieved. Good. Died 8 h'rs after admission.	n 9 hrs.	Good.
January 30, 1874. April 2, 1875.	May 24, 1875. December 31, 1875. November 81, 1875. Angust 11, 1877. Pebruary 7, 1878. March 16, 1878.	A. September 28, 1871. May 14, 1872. July 21, 1875. July 15, 1878.	AVICLE. daage. October 10, 1871. rfract., June 11, 1873. April 21, 1874. April 27, 1874. April 29, 1875. Novem. December 31, 1875. December 31, 1875. December 31, 1875. December 31, 1875. December 31, 1877. Te's). July 25, 1877. EXTIR EMITY. EXTIR EMITY. June 22, 1869. Int. (recober 30, 1871. April 1, 1872. Int. (recober 27, 1874. September 19, 1874.	December 24, 1874. February 18, 1875. July 19, 1875.
Adhesive strips.	Adhesive plaster. Adhesive plaster. Adhesive plaster and band, Bandage. Adhesive plaster. Adhesive strips. Adhesive strips.	FRACTURES OF THE SCAPULA Pad in axilla, arm across School: Pad in axilla and sling band. Manage April 22d ad. strips. Addresive plaster, Sayre's Janethod.	OF THE CLAVICI and in axilia and bandage. The in axilia and over fract., Atherive strips. Sive plaster. Sing. And in axilia, bandage, arm is sing. The UPPER EXTR HUMBRUS. Of treatment. Stream of internal and stream of internal angular splint. The cectangular splint.	Internal angular splint. Ant., post., and lat. splints. L. terd splints.
Eighth and ninth.	Seventh. Sevend. Sevend. Sevend. Sevend. Right side, two ribs. Fourth, near sternum. Sixth, three or four inches from sternum.	FRACTURI Neck. Neck. Left. Left acromial process.	7 - 4	Left, internal condyle. Urpitus. Pain. Right. Right, upper third.
Fall. Railroad accident.	Fall. Fall. Fall. Fall. Fall. timb.	Blow. Fall. Kick of horse. Mining accident.		Fall. Fall. Machinery accident.
January 9, 1874. April 20, 1875.	May 5, 1875. October 25, 1875. October 29, 1875. January 5, 1876. January 18, 1877. January 18, 1878. March 5, 1878.	August 29, 1871. April 15, 1872. June 15, 1875. July 15, 1878.	September 11, 1871. April 19, 1873. March 5, 1874. April 20, 1875. Jure 15, 1875. Jure 15, 1875. October 29, 1875. November 29, 1877. July 21, 1877. July 21, 1877. July 21, 1877. June 19, 1869 January 3, 1878. June 19, 1869 June 20, 1871. September 20, 1871. September 20, 1872. February 25, 1872. February 25, 1873. September 24, 1873. September 24, 1873. September 24, 1873.	November 17, 1874. January 5, 1875. June 14, 1875.
50 Irish. 24 Irish.	42 Irish. 43 Scotch. 55 Irish. 67 Portuguese. 63 Bngish. 40 Irish. 25 American.	50 Irish. 44 American. 49 Irish. 45 Irish.	Irish. Irish. English. English. Irish. Corored. American. Irish.	21 Irish. 34 Irish. 34 Engli h.
M.	REFERENCE.	K K K		KK K
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FRACTURES OF THE UPPER EXTREMITY (continued).

Remarks.	Discharged for drunkenness before treatment ended. Fracture of ulna "above coronoid process."	Left without permission. Said to have been amputated subsequently. Compound comminuted fracture of right tibia and fibula.	Lacerated wound wrist. Fracture right humerus (No. 13). Discharged for drunkenness before treatment ended. Union and position good.	Discharged at request.	Good motion, radius straight. Dislocation left wrist. Comp. fract. third finger right hand. Loss of second finger of left hand, with first metacare. Face and eves burned with nowder.	Abscess over eye, February 20. No crepitus; preternatural mobility. Accident some time before admission, and treated in out-patient department. Fracture condyle hum. (14) fracture condyle hum. (14) fracture condyle hum. (14)	right radius. Fracture right tib. and fib. One inch shortening; bear no weight. No shortening; union firm. Erysipelas face, March 2. Left without permission.
Result.	Good. Good. Good.	Wound nearly healed. Good.	Good. Good. Good.	Good,	Good. Good. Good. Good. Good.	Good. Good. Good. Good. Good. Good. Hied on admis	Unrelleved. Good. Good.
Date of Discharge.	January 2, 1875. February 7, 1875. February 26, 1876. July 8, 1876.	June 16, 1869. February 2,1877.	January 3, 1871. May 15, 1871. January 15, 1874. January 14, 1875. February 12, 1878.	August 17, 1878. October 10, 1878. October 25, 1868.	December 18, 1868, March 27, 1872. May 14, 1877. June 29, 1878.	March 30, 1872. August 13, 1872. May 9, 1873. May 10, 1873. September 7, 1874. December 8, 1875. January 12, 1876.	
Treatment.	External angular splint, int. below elbow. Plaster Paris. January 9th, inter. and exter. Splints. Plaster Paris. Internal sugular splint.	ELBOW-JOINT. Resection. Internal ang. splint. July 12th, straight splint.	RADIUS AND ULNA. Ant. and post. splints. Bond's splint. Straight splints; plast. Paris. St. Light side splints. St. Ant. and post. splints.	Straight ant, splint. Ant. and post, splints. RADIUS. Ant. and post, splints.	Ant, and post, splints. Boat's splint, short dorsal. Pisto-shaped splint. Pasteboard splints. Int. ang. splint. Ant. splint.	ULNA. Plaster Paris (straight). Bond's splint and short dors. Pasteboard splints. Straight splint. Extern. and intern. splints. Int. splint and ext. ang.	F THE LOWER EXTREMITY Simple Ext. and count. ext. March Z7, Plaster Paris. Ext. 25 lbs.; long side splint. May 7, 18 Weight and pulleys; re- moved February 1. Long splint, Jan. 5, weight and pulleys. Buck's ext. April 26, plas- April 29,
Definition of Fracture.	External condyle. Lower third. Left. High up. Left. Excernal and internal condyles.		rt. Ulni above wri	Just below elbow. Right lower end, earpus driven	Daskwari. Daskwari. Colles. Right, Colles. Just below tubercle. Right, Colles.	Olecranon. One inch below elbow. A little above middle. Left, "above coron. process,"	FRACTURES OF
Cause.	Fall. Fall.	Railroad accident.	Fall. Machinery accident. Fall. Fall.	Machinery accident. Machinery accident. Fall ten feet.	Fall. Fall. Fall. Fall. Fall. Fall. Blasting accident.	Fall. Machinery accident. Fall from window. Hallroad accident. Horse-car. Blow. Fall. Fall.	Fall. Fall on ice. Fall on ice. Thrown from stage.
Date of Admission.	November 18, 1875. December 9, 1875. January 1, 1876. June 8, 1876.	January 25, 1869. July 5, 1876.	December 12, 1870. April 7, 1871. December 17, 1873. June 14, 1875. January 12, 1878.	June 4, 1878. September 23, 1878. October 13, 1868.	November 5, 1868. Rebruary 10, 1872. February 2, 1876. April 4, 1877. May 4, 1877. May 14, 1878.	January 13, 1872. July 11, 1872. April 2, 1873. April 19, 1873. August 7, 1874. November 3, 1875. May 16, 1878.	February 27, 1872. April 19, 1872. December 19, 1872. December 25, 1872. April 21, 1873.
Age, Nativity.	- American. 42 Irish. 70 English. 42 French Gana-dian.	23 American. 28 German.	8 American. 27 Amèrican. 14 American. 34 English. 15 Irish.	13 Pole.19 Irish.12 American.	52 American. 34 Irish. 55 Irish. 52 American. 45 Nova Scotian. 29 Irish.	15 American. 65 Irish. 18 Irish. 18 Irish. 33 Irish. 90 Portuguese. 13 Sooten.	
Sex.	K. F. K.	M. M.	E KK KK	M. M.	KKKKE	KE KERKE	H H H H
11	16 16 17	H 63	H 0.1 0.0 41 70	1 40	010041001-	H0004100 1-0	H 6160 4 10

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Accident happened a week before admission. Dis- charged, walking with one crutch. Creatus on ro-	tation, commission Fell again May 99, and we.	admitted. See No. 10, below.	E	of a circle. Entirely unmanageable, remov'g dressings frequently.		Removed by friends.	Fracture existed two weeks before admission; had not	been diagnosed.	Compound fracture right femur. Union firm.		September 15, half inch shortening. October 13, fell and broke thigh again in same place.		Shortening, one inch.	Fracture occurred week before admission. November	14, both legs equal length; union firm. Removed by friends. One inch shortening; compli-	cated fracture lower jaw, November 6. June 26, quarter to half inch shortening. Same case	as No.7, previous section. July 1, no shortening.	September 12, one inch shortening.	February 22, fell and refractured thigh. March 30,	can walk without crutches. Complicated on admission, compound dislocation internal cunciform left. Took. Wound one inch long. Sutures. Bone forci-	bly replaced. Reb. 5, wound heated. September 18, half inch shortening.	Died suddenly; no cause found.	One eighth inch shortening.	Accident eleven days before admission. Oct. 3, three	quarters inch shortening. Disch'd at own request,	September 11, one third inch shortening.			September 16, measured, no shortening discovered.	September 28, half inch shortening. Discharged, walking well without crutch or came.	Removed by friends.	
Shortening 1 to	Shortoning 3 in	Shortening,	March 10, 4 inch.	Discharged.		Union firm.	Good.	Good.	Died in few hrs. Good.	Good.	Good.		Good.	Good.		Good.	Good.	Good	Good.		Good.	Death.	Good.	Good.	Good.	Good.			Good.	Good.	Unrelieved,	
September 26, 1873.	March 17 1874			July 23, 1877.		February 26, 1870.	April 13, 1871.	April 21, 1871.	November 2, 1871. January 11, 1872.	August 30, 1872.	February 27, 1874.		January 6, 1874.	December 16, 1873.	March 26, 1874.	August 14, 1874.	August 13, 1874.	October 15, 1874.	April 5, 1875.		November 17, 1875.	August 19, 1875.	November 8, 1875.	November 11, 1876.	March 30, 1877.	October 6, 1877.			September 22, 1877.	November 6, 1878.	September 24, 1878. Unrelieved.	
Buck's ext. 15 lbs. Aug. 1, Plaster Paris.	Ext and counter ext Red	raised. Feb. 27, Plast, Par. Sand bags. Buck's ext. Re-	Buck's apparatus, 7 lbs. Re-	moved March 28. Buck's apparatus.	(2.) SHAFT.	Buck's extens.	Buck's apparatus, Dext.,	Buck's extens, Plast. Paris,	Modified Liston's splint.	Buck's 10 lbs. July 22,	Buck's. September 15, plast.	18, long side splint; ext.	Buck's 20 lbs. October 21,	Buck's 14 lbs.	Plaster Paris. March 24.	Buck's 80 lbs.	Plaster Paris, flannel mould, June 12. Buck's 14 lbs.:	incr'sed June 18 to 29 lbs. Buck's; 28th, Descault's	splint; Sept. 4, Buck's. Day's side splint; exten. on	foot piece; short ant., post., and intern. splints. Jan. 1, plaster Paris.	Buck's; 22d, double inclin'd plane exten. from knee. Aug. 31. plast. Paris: Sent.	7, Dessault's splint. Ant., post., and lat. splints.	Day's splint. Aug. 24, plas-	Dessault's; Oct. 15, plaster	Paris. Desault's; Jan. 20, Buck's	Buck's; May 31, removed; good union; apposit, per-	feet. June 10, outward curve, coupt, splint reap-	refractured it. Buck's;	Buck's; Sept. 5, plast. Paris	Buck's 12 lbs. Sept. 28, plast. Paris down to knee. Oct.	Buck's; eight pounds.	
One inch shortening.	No shortening : eversion	Extra capsular,	e inch shortening.	Impacted.		Thrown from wagon. Left oblique; upper and mid-	Lower third.	Just above knee.	Left, comminuted. Middle third.		t junct.		Lower third; one and a half	Both, lower thirds, left half	nch shorter. Left, two inches shortening.	Left, two inches shortening.	Right, middle third, one and three quarters inch short-	ening. Right, oblique, one inch	Right, middle, and lower	third, half inch shortening.	Right, lower third.	Left, lower third, two inches	shortening. Right, middle, oblique.	Right, upper third, oblique.	Little above middle.	Left, middle third.			Comminuted, lower third.	Right, middle third, trans-	Right, just below trochanter.	
Fell off a lond.	Fall.	Fall,	Fall.			Thrown from wagon.	Fall.	Fall.	Railroad accident, Fall.	Run over.	Knocked down by pole.		Pole fell on him.	Staging broke.	Fall.	Fall.	Fall from staging, three stories.	ng.	Heavy plate boiler	iron iell on him.	Bank fell on him.	Fall.	Fall.	e; fell	Struck by bale of Little above middle.	Struck by large block Left, middle third granite.			Fall.	Rock fell on him.	Fall.	
July 29, 1873.	November 29, 1873.	February 27, 1875.	January 30, 1877.	July 9, 1877.		January 8, 1870.	November 5, 1870.	February 10, 1871.	November 2, 1871. November 13, 1871.	July 15, 1873.	August 21, 1873.		October 4, 1873.	Nova Scotian. October 7, 1873.	March 6, 1874.	May 29, 1874.	June 2, 1874.	August 11, 1874.	November 28, 1874.		July 20, 1875.	August 17, 1875.	July 25, 1876.	September 21, 1876.	December 2, 1876.	April 23, 1877.			July 7, 1877.	August 15, 1878.	September 21, 1878.	
61 English	17 Irish.		75 Irish.	72 Irish.		69 American.	65 American.	26 Irish.	21 American. 11 Irish.		50 Irish.		- Irish.	37 Nova Scotian.	8 American.	17 Irish.	22 Swede.	87 American.	19 Irish.		27 Irish.	28 Irish.	48 English.	38 Canadian.	23 Irish.	28 Canadian.			40 American.	21 Irish.	80 Irish.	
W.	M.	形.	1	H.		M.	표.	M.	M.	M.	M.		M.	M.	M.	M.	M.	M.	M.		M.	M.	M.	M.	M.	M.			F.	M.	E.	
9	1	. 00	6	10		-	04	00	410	9	1-		00	6	10	II	12	13	14		15	16	17	18	19	20				22	23	

FRACTURES OF THE LOWER EXTREMITY (continued).

American. No American. Rel Canadian. Ap				Treatment.	Dave of Discharge.	mesult.	Remarks.
No Fe				FEMUR.			
No Fel				Compound.			
Fel	November 2, 1871.	Railroad accident.	Right femur; with comminuted fracture left femur.			Died.	In a few hours.
AT	February 8, 1874.	Railroad accident.	Comminuted left femur.			Died.	Compound comminuted right tib, and fib. Two
82	April 9, 1874. September 24, 1875.	Railroad accident.	Comminuted right femur. Comminuted left femur; com- pound commin'd fracture fourth finger left hand; lac- erated wound left arm from			Died. Died.	One hour after admission. Half hour after admission.
				PATELLA.			
American. Sel	September 16, 1874.	Fall.	Stellate.	Fig. eight bandage; adhesive	December 24, 1874.	Good.	Fragments found in good position.
American.! Au	August 14, 1876.	Fall.	L. transverse.	Post splint and elastic bands.	September 6, 1876.	Good.	
			II	TIBIA AND FIBULA.			
The state of the s	February 92, 1869.1	Railroad accident.	Left tib, innet, middleand un-	Simple, Fract. box: March 20 dev.	May 99, 1869	Good	
Ju	July 3, 1869.	Mach, accident.		trine band.	August 28, 1869.	Good.	No apparent shortening.
				tension 5 lbs.; Aug. 10, dex-			0
American, Ju	July 22, 1870.	Buried by falling	L. ankle, tib. and fib., com-	Fract. box and counter-ex-	August 4, 1870.	ľ	Discharged at own request.
Canadian. Ju	July 27, 1870.	Earth and stones fell		Fract. box; Aug. 15, dex-	October 18, 1870.	Good.	
De	December 25, 1870	Fall.	Oblique at middle of leg.	Fract. box; Feb. 14, 1871,	March 30, 1871.	Good.	days prior to admis. Discu. so own request.
Ms	March 4, 1872.	Railroad accident.	Just above ankle	Plaster Paris; April 2, dex-	June 7, 1872.	Good.	Fracture occurred six weeks before admission;
Ju	June 24, 1872.	Earth caved in.		Fract. box; Aug. 6, dextrine	September 5, 1872.	Good,	union. Treated with plas, raris before admis. Fractured five days before admission.
Ap	April 19, 1873.	Railroad accident.	Three inches below knee,	Fract. box; April 28, plaster	May 11, 1873.	Died.	Complicated with fractured rib, No. 1. Death
000	October 11, 1873.	Earth fell on him.	; shortening one hall	Fract. box; Oct. 26, plaster	December 15, 1873.	Good.	from pneumonia.
N	November 6, 1873.	Caught by rope.	Just above ankle; shortening one inch.	Fars band. Fract. box; Nov. 21, plaster Paris; Dec. 12, gutta-per-	January 12, 1874.	Good.	
De	December 27, 1873.	Earth caved in.	Near knee; shortening one in.	Extension by wt. 12 lbs.; count. ext. Fract. box.	March 21, 1874.	Good.	
Ja	January 10, 1874.	Kick.	Four inches above ankle;	Jan. 5, plaster Paris. Plaster Paris, 23d, read-	April 14, 1874.	Good.	
Fe	February 24, 1874.	Earth caved in.		justed; Feb. 7, new splint. Plaster Paris; March 10, re-	April 4, 1874.	Good.	
Portuguese. Ma	May 15, 1875.	Jumped off cars.	Right; middle, oblique.	Fract. box; May 24, plaster	July 24, 1875.	Good.	May 24, three eighths inch shortening.
Ju	July 13, 1877.	Fall,	Left; just above joint.	Fract, box.	August 11, 1877.		Left the hospital. Complicated with fractured
M	March 30, 1878.	Fall.	Left; lower third, trunsverse.	Plaster bandage, Little's method; May 6, pasteboard	May 8, 1878.	Good.	ribs, No. 5. Left the hospital. Accident happened eight days before admission. Had delirium tremens.
M	May 16, 1878.	Fall from third story.	Right.	splints.	May 16, 1878.	Died on admis.	Depressed fracture skull; compound dislocation right radius; fracture left ulna.
French Cana- Sel	September 15, 1869.	Struck by falling beam; back and	Tibia, junct. upper and middle thirds; bone prograding;	Compound. Fract. box.	Sept. 21, 1869.	Death.	Fract. spin. process of one lower dorsal vertebra, No. 1; paralysis lower extremities and bladder.
American. Ja American. Fei Irish. Ma	January 31, 1872. Rebruary 17, 1872. May 6, 1872.	Railroad accident. Railroad accident. Barrel beer feil on leg.		Fract. box; June 4, dext.	January 31, 1872. February 17, 1872. September 27, 1872.	Death in 3 hours. Died in 4 hour. Good.	Penetrating wound thigh down to trochanter. Fract. four lower ribs near vertebral connection.

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Compound comminuted fracture left femur. Good union anchylosis ankle; openings on both sides nearly healed. July 4, erysipelas in leg	August 1, large slough from heel.	Loss of toes of left foot. Small pieces bone worked out. When discharged sinuses still open; could walk on leg.	Leg dropped off. Bones removed higher up. Removed by friends. Discharged at request. Dead bone could be felt.		Amputation left leg middle and lower thirds. Plast. Parts removed Jan. 30; slough found not fully healed when discharged.			Discharged for intoxication.		Ulceration from bandage, fenestra.	Fract. occurred at sea two days before admission. Back injured. Paralysis bladder several days. Wound in ankle; spic. bone discharg'd Aug. 4.				Depressed fracture skull; fract. left acromion.	Occurred thirteen days previous to admission.			
Died in 2 hours. Good.		Died in 14 hours. Good.	Good. Died in 2 hours. Good.		Good.	Good.	Good.	Good.	Good.	Good.	Good.	Good.	Good.	Good.	Good. Died 8 h'rs after admission.	Good.		Good. Good., Good., Good.	
February 8, 1874. August 24, 1872.		April 25, 1876. February, 2, 1877.	May 28, 1877. August 29, 1877. August 23, 1878. October 11, 1873.		August 24, 1871. March 9, 1872.	February 27, 1872. October 22, 1872.	February 27, 1873.	May 23, 1873.	June 11, 1873.	August 9, 1873.	November 16, 1873.	September 28, 1873.	April 3, 1874. January 17, 1876.	March 1, 1876.	December 13, 1877. July 15, 1878.	December 27, 1869. September 17, 1872.		August 20, 1870. July 17, 1871. February 7, 1872. May 25, 1874. May 14, 1877.	
One half to one in. lower end tibia removed : plast, Paris	with fenestra; June 17, fr. box; July 15, side splints; July 30, leg swung; Aug. 13, side splints removed	Fract. box; July 21, plaster box; July 21, this drilled, blunla firm; Sept. 28, external splint; Oct. 8,	internal. Plaster Paris; fract. box, gaugrene. Cosptation splints. Long post. short external splint; Sept. 24, plaster Paris with lenestra.	TIBIA.	Fracture box, Splint and count, ext.; 30th, fract. box; Dec. 5, Smith's ant. splint; Jan. 3, plast.	Jan. 8, plaster Paris. Fract. box; Oct. 3, dextrine	Ext. and int. splints; Oct. 2, fract. box; Oct. 11, dext.	pand. Plaster Paris; April 11, fe- nestra in consequence of	ulcer. Fracture box; April 28, plas-	Fract. box; June 15, plaster	Fract. box; July 11, plaster Paris; July 19, fenestra for wound; Sept. 23, side	Fract. box; Aug. 11, Plaster	Plast. Paris. Fract. box; Nov. 8, later.	Fract. box; Jan. 31, gutta-	Fract. box; Nov. 29, side splints. Side splints.	Compound, Fracture box; December 18, dextrine bandage. Fracture box; August 28, dextrine handage: Soften-	ber 3, side splints. FIBULA.	plint. April 25, plaster .t, and, April 10,	
Comminuted. Right, lower end comminuted.		Right, comminuted. Right, comminuted.	Comminuted. Comminuted, both legs. Middle third; Middle third; down to tibia.		Right. Lower third.	Oblique lower third. Two inches above ankle.			Two inches below knee.		Right, near ankle.	Just above ankle.	No shortening. Right, middle.	Lower third.	Left lower and middle thirds transverse. Left comminuted.	Left. Comminuted.		Left; lower third. Lower and middle third. Bight. "Lower fifth."	
Railroad accident, Caught in wagon wheel.		Railroad accident. Railroad accident.	Struck by a car. Rallroad accident. Kick. Jumping.		Railroad accident. Fall.	Run over. Iron fell on him.	Fall.	Run over.	Railroad accident.	Fall.	Struck by spar.	Jump.	Run over. Struck against stone.	Fall,	Bale cotton fell on him. Mining accident.	Fall. Thrown from wagon.		Fall. Fall. Fall. Fall. Kicked	
February 8, 1874. June 14, 1874.		April 25, 1876. July 5, 1876.	November 29, 1876. August 20th, 1877. August 14, 1878.		June 15, 1871. November 24, 1871.	December 27, 1871. September 17, 1872.	September 26, 1872.	March 18, 1873.	April 19, 1873.	June 9, 1873.	July 6, 1873.	August 5, 1873.	February 14, 1874. October 18, 1875.	December 22, 1875.	November 23, 1877. July 15, 1878.	December 17, 11869. · July 12, 1872.		July 22, 1870. June 27, 1871. December 20, 1871. April 13, 1874. April 6, 1877.	
12 American. 47 American.		28 German.	26 Irish. 24 American. 25 Irish. 12 English.		30 American, 26 Irish,	50 Irish. 34 Irish.	44 English.	51 Irish.	18 Irish	35 Irish.	23 Swede.	21 Swede.	40 English. 27 American.	5 American.	21 American. 45 Irish.	42 American. 28 Canadian.		28 Irish. 20 American. 42 American. 50 Scotch. 20 American.	
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	Result.	Died in a few hours.	Died in three hours from admission.	Died in half an hour.	Died two hours after admission.	Died one hour after admission.	Died in nine hours from admission.	Died in half an hour after admission.	Died in one and a half hours after admission.	Died in two hours after admission.	Died on admission.	Died eight hours after admission.
	Date of Discharge.	1	1	1.5	1	1	1 .	ı	1	1	I.	.1
	Treatment. I	T	1	1 .	1	I	I	I ,	1.]	1 4	Skull trephined; store ex- tracted from ant, fragment between dura mater and in-
	Definition of Fracture.	Comp. fract. of right femur; commin. fract. of left femur.	Comp. fract. of leg, and pene- trating wound of thigh down to trochanter.	Comp. fract. of leg, and fract. of four lower ribs near vertebral connection.	Comp. commin. fract. of left femur; comp. commin. fr. of vieht tibia and fibula.	Comp. commin. fracture of right femur.	Dislocat. of tenth dorsal vertebra; fract. of the eleventh dorsal vertebra, ribs, and seronial and of clavicle	Comp. commin. fract. of left femur; comp. commin. fr. of fourth fing. of left hand; lacerated wound of left arm	Comp. commin. fract. of right leg, toes of left foot.	Comp. comminuted fract. of	Depressed fract, of skull behind left ear; comp. disloc, of right radius; fract, of left ulm; fract, of right	this and fibula. Depressed fract. of skull; fr. of left acrom.; comminuted fract. of left this.
	Cause.	Railroad accident.	Railroad accident,	Railroad accident.	Railroad accident.	Railroad accident.	Fall of heavy timber.	Railroad accident	Railroad accident.	Railroad accident.	Fall from third story.	Mining accident.
	Date of Admission.	November 2, 1871.	January 31, 1872.	February 17, 1872.	February 8, 1874.	April 9, 1874.	April 10, 1875.	September 24, 1875.	April 25, 1876.	August 20, 1877.	May 16, 1878.	July 15, 1878.
	Sex. Age. Nativity.	American.	24 American.	13 American.	12 American.	Canadian.	24 Irish.	- Irish.	1	24 American.	S Scotch.	45 Irish
1	K. Ag	M. 21	M. 23	M. 18	M. 12	M. 31	M. 24	M	T. 57	M. 24	M. 13	M. 4
	Se	1 M	2 2	60	4	5 B	6 3	-	8 M	9 N	10 M	11. 3

Head. Cranium. Simple 3 7 10	19
Maxillee. Both. Compound	19
Vertebræ	19
Scapula 4	
_	85
Upper Extremity. Arm. Simple Elbow Joint. Compound Comminuted	
Fore-arm, Radius and Ulna, Simple	
Radius	41
Lower Extremity. Thigh. Neck Shaft. Simple	
Compound	
Patella 2 Leg. Tibia and Fibula. Simple	
Tibia. Simple	
_ 51	90

CLAVICLE.

There were twelve cases, of which eleven were males and one female. Of these, one died from other serious injuries, and one left the hospital four days after admission. The average residence of the remaining ten was thirty-six days. Of these cases, five were on the right side, four on the left, and three not given. In eight the fracture was in the outer third, in two, in the middle, one in the inner third, and one not stated. The treatment varied, the larger number being treated by the axillary pad and bandage; Sayre's method, with adhesive strips, was used in some cases.

HUMERUS.

There were seventeen cases, all of simple fracture of which thirteen were in males and four in females. The right humerus was broken in two cases, the left in six, and in nine it is not stated. Of seventeen, one died from intemperance, three days after admission, and the average residence of sixteen was forty-four days. As to the location of fracture, four were in the upper third, one middle third, two junction of middle and lower thirds, two lower third, two external condyle, three internal condyle, one both condyles, and two not stated. In treating these cases, angular splints, external or internal, were used in nearly all of those of the lower portion. Plaster of Paris was applied in three cases.

RADIUS AND ULNA.

Seven cases, of which six male and one female. Of these, two were of the right arm and one of the left, four not stated. Of these seven, one was discharged, at his own request, on the seventeenth day, and of the remaining six the average residence was thirty-seven days. As to location, one was in the upper third, one in the middle, one at the junction of middle and lower, two in the lower third, one in which the radius was broken in the lower and the ulna in the upper, and

one not stated. Antero-posterior splints were chiefly used.

Radius. Seven cases: five males, two females; three of the right, one of the left, and four not stated. The average residence was forty-three days. Four were of Colles's fracture, two of the lower end, and one just below the tubercle. Anterior and posterior splints were chiefly used.

Ulna. Eight cases: six males, two females; two of the left, six not stated. Of the eight cases, one died immediately after admission from other severe injuries, and of the remaining seven the average residence was forty-one days. Of these fractures, one was of the olecranon, two of the upper third, one of the middle, and four not stated. In the case where the olecranon was fractured, the degree of separation on admission or discharge is not given.

FEMUR.

There were thirty-seven cases in all, of which ten were of the neck of the bone. Of these ten, there were six males and four females. In only one instance is the side given, and that was the right. Of these cases, one left, one was discharged for misbehavior early in the treatment, and one was discharged on the eighteenth day with "union firm," so that in this case, presumably, there was an error in diagnosis. Of the remaining seven the average residence was ninety-one days. The amount of shortening on entrance is not stated in seven cases; one had no shortening, but eversion, and in two there was one inch. At the time of discharge the condition is not stated in five, and of the rest one had no shortening (not the same as on entrance), one had one fourth inch, one one half to three fourths inch, one three fourths inch, and one one inch. The treatment was chiefly by Buck's method, with the addition sometimes of sand bags and long splints.

There were twenty-three fractures of the shaft of the femur, and of these twenty were males and three females. Of these, eight were of the right thigh, eight of the left, one of both, and six not stated. Two of these cases died, one on the second day after admission, and one in a few hours, with a compound fracture of the other femur. Of the remaining twenty-one cases, three were removed by friends, three fell while convalescent, and refractured the thigh, remaining in the hospital respectively one hundred and twenty-eight, one hundred and thirty-six, and one hundred and ninety days, and for the remaining fifteen the average residence was eighty-three days. On admission the amount of shortening is not stated in fifteen cases. Three had two inches, and one each had one and three fourths inches, one and one half inches, one inch, and one half inch. In the case in which both femurs were broken, the left was one half inch shorter. At the time of leaving the hospital the amount of shortening is not stated in nine cases; in three there was one inch, in one three fourths inch, in three one half inch, and in one each, one fourth to one half inch, one third inch, and one eighth inch; in three there is said to have been no shortening. In the case of both femurs, the limbs were of equal length. Buck's apparatus was very generally employed, followed by plaster of Paris. One case, admitted November 28, 1874, was remarkable from the rare complication of a compound dislocation of the internal cuneiform bone, which was forcibly replaced, and the patient made a good recovery.

There were four cases of compound fracture, all of which terminated fatally shortly after admission.

PATELLA.

There were two cases, both male, one stellate, and one of the left, transverse. The degree of separation is not given. The former was in the hospital ninetynine days, and the fragments were "found in good position" shortly before leaving, the treatment consisting of a posterior splint, adhesive strips, and a figure-of-eight bandage. The other was in the hospital but twenty-three days, and was treated by a posterior splint and elastic bands.

TIBIA AND FIBULA.

Of these there were seventeen cases of simple fracture, of which fourteen were males and three females, two of the right, six of the left, and nine not stated. Two died, one shortly after admission, and one from pneumonia following a fractured rib; two left the hospital; and one was discharged at his own request on the thirteenth day. The average residence of the remaining twelve was seventy-seven days. As to location, there were two in the upper third, one at the junction of the middle and upper, four in the middle third, seven in the lower third, and three not stated. In one case the fibula was fractured three inches, and in another one inch, below the tibia. The degree of shortening is given only in five cases on admission; of these, three had one inch, one had three fourths inch and one had one half inch; it is given in only two instances on discharge, one having three eighths inch and one no shortening. The treatment in the majority of cases was by the fracture box, although plaster of Paris was used in a few cases. One case of ununited fracture was admitted, the fracture occurring sixty-eight days previous; he remained in the hospital seventy-eight days, and was treated by the fracture box and the dextrine splint. He was discharged at his own request, with "the fibula united and the tibia quite firm."

There were twelve cases of compound fracture of these bones, all in males; one was of both legs, two of the right, and nine not stated. Six died within a few hours of admission, and one was removed early in the treatment. Of the remaining five the average residence was one hundred and twenty-six days. The fracture box and fenestrated plaster-of-Paris bandages were chiefly employed. There are no statistics as to shortening.

Tibia. There were fifteen cases of simple fracture of this bone, of which fourteen were males and one female. Three were of the right leg, two of the left, and ten not stated. One died in a few hours after admission from a fracture of the skull, and of the remaining fourteen the average residence was seventy-three days. As to location, six were in the lower third, one lower and middle, one middle, one upper third, and six not stated. The fracture box was chiefly used, but in a few cases plaster of Paris or side splints were applied.

There were two cases of compound fracture of this bone, one male and one female, one of the left leg and the other not stated. One occurred thirteen days prior to admission, and after remaining ten days was discharged; the other remained sixty-seven days.

Fibula. There were five cases, four male and one female; one of the right, one of the left, and three not stated. The average residence was thirty-eight days. Three were in the lower third.

DISLOCATIONS.

There have been but eight cases of uncomplicated dislocations admitted to the wards of the hospital during the ten years covered by these tables. Of these, four have been of the thigh, all in males from twenty-six to forty years of age. Two were of the left thigh, and two not stated. Two were upon the dorsum ilii, one into the ischiatic notch, and one into the foramen ovale. All were reduced by manipulation according to Dr. Bigelow's method.

There were two dislocations of the humerus, one in a boy aged fourteen, "forwards and upwards," occurring two days before admission, and one in a man aged forty, upon the dorsum of the scapula, occurring eleven days before admission. Both were easily reduced.

There was one dislocation of the radius and ulna backwards, of long standing, in a man thirty-six years of age, admitted November 14, 1871. Frequent efforts were unsuccessfully made, and in the last of these, the pulleys being in use, a fracture of the bone was produced; which bone is not stated. He, however, left the hospital after a stay of six weeks, with improvement in the motion of the joint.

There was also one dislocation of the outer end of

the clavicle in a man aged twenty-seven.

CONCLUSION.

Such are the somewhat meagre results that are on record for these first years of the existence of the hospital. Like all other institutions this has to grow into popular favor, and its second decennial will probably witness a larger number of cases coming under treatment. At all events, this comparatively small number will, I trust, furnish some details of interest to the reader, and may be regarded as a simple contribution to the study of fractures.

PROVIDENCE, April 29, 1880.



