

Barnebrudd i overekstremiteten

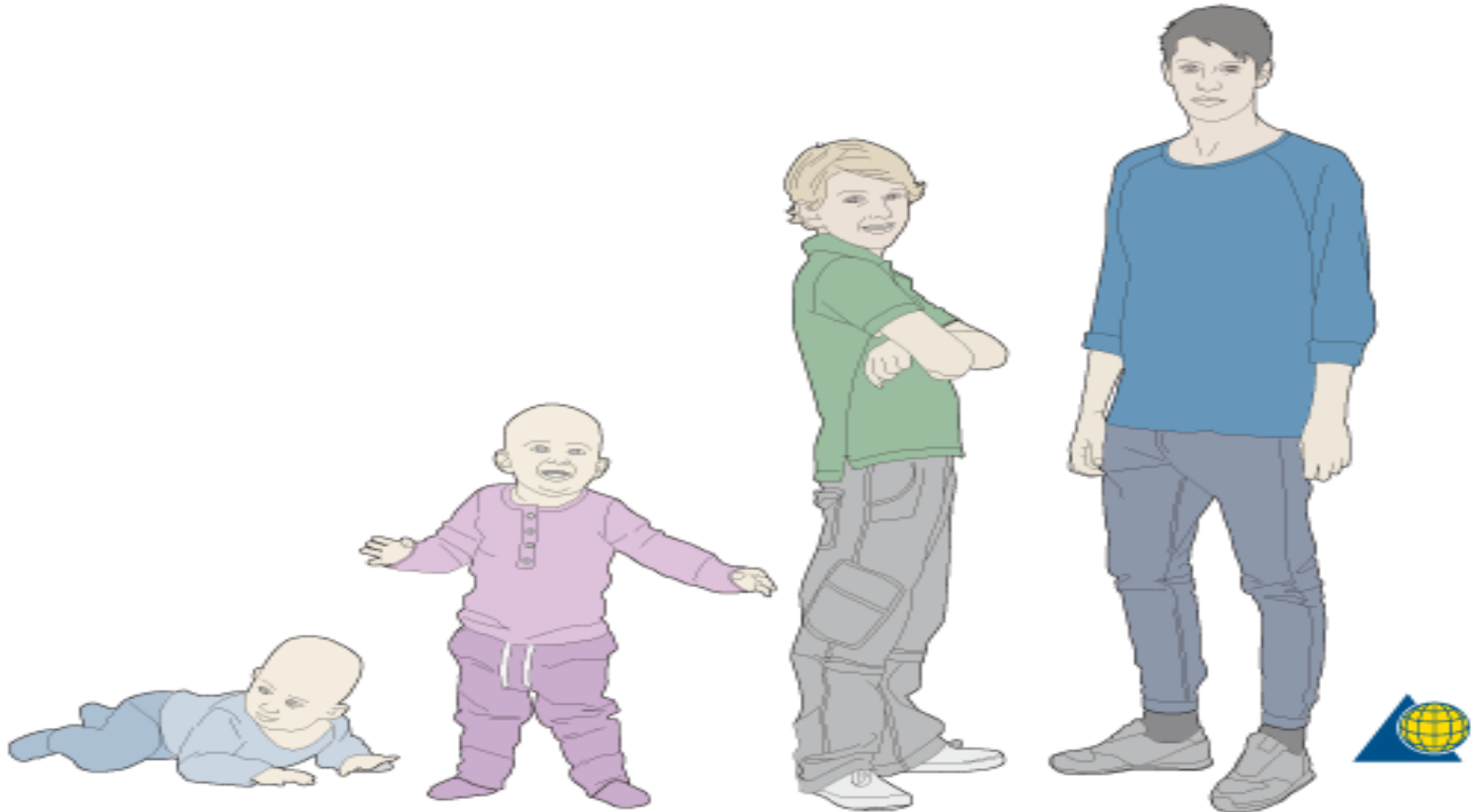


Halvparten av guttene og $\frac{1}{3}$ av jentene
brekker noe innen de fyller 16 år

De fleste brudd skjer hos barn som vil pådra
seg to eller flere brudd i barndommen

Halvparten av alle barn brekker aldri noe

Definisjon barnebrudd

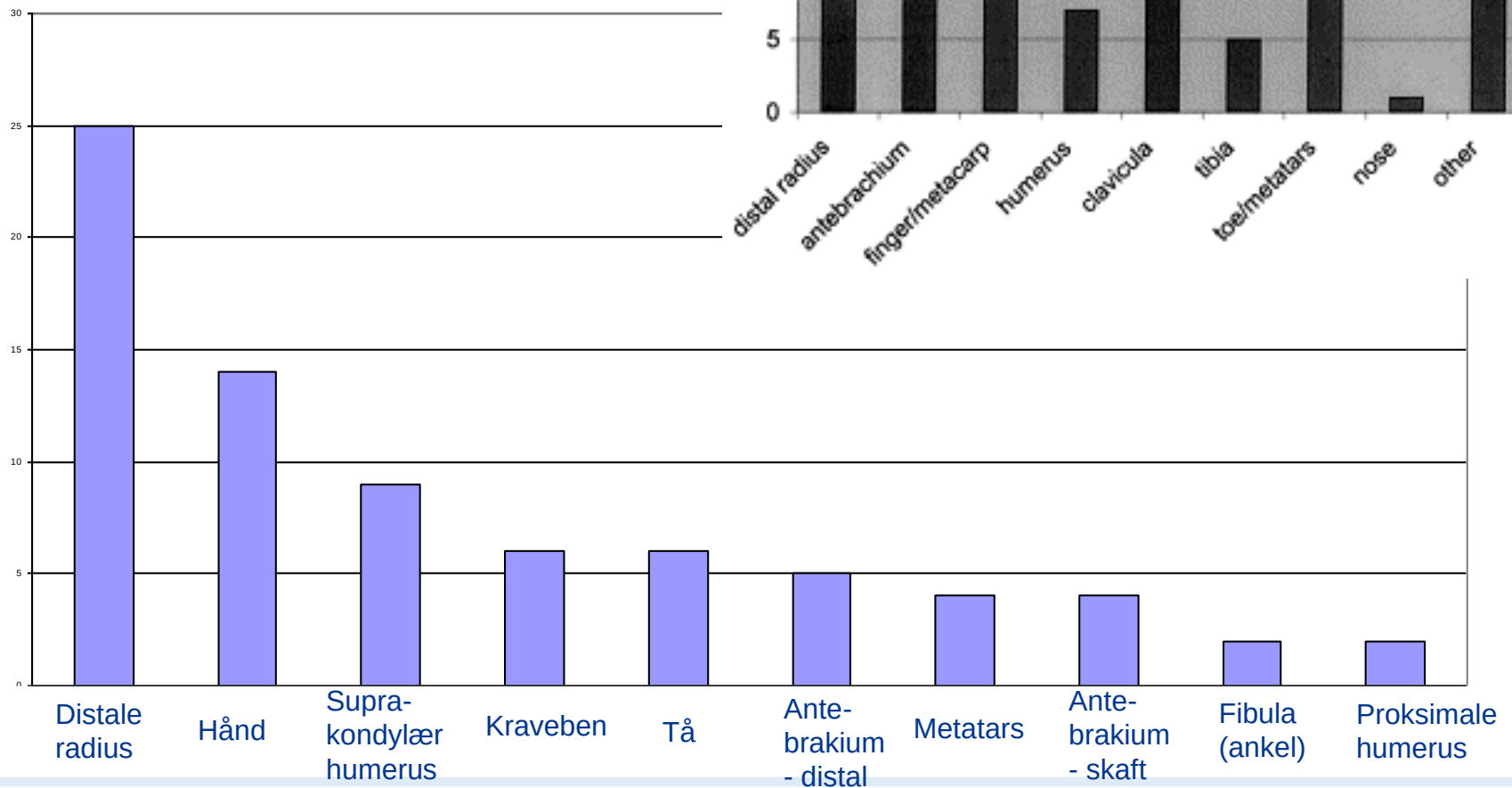


From the perspective of skeletal injury, a child is any young person who has not yet reached skeletal maturity.

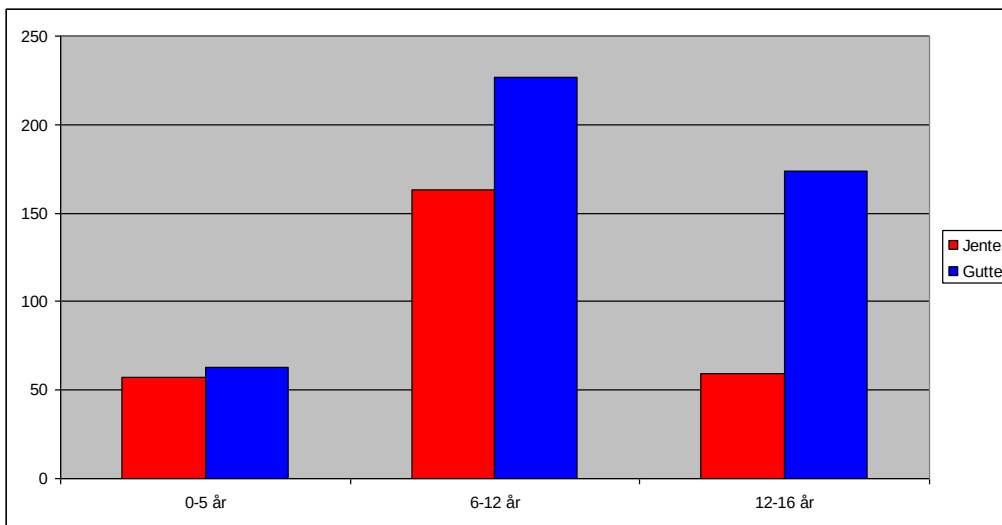
Disposisjon

- Epidemiologi
- Distal radius
- Skaft radius/ulna
- Proximale radius/ulna
- Suprakondylære humerusfx
 - Epikondylfrakturer
- Humerusskaft
- Proximale humerus
- Clavicula

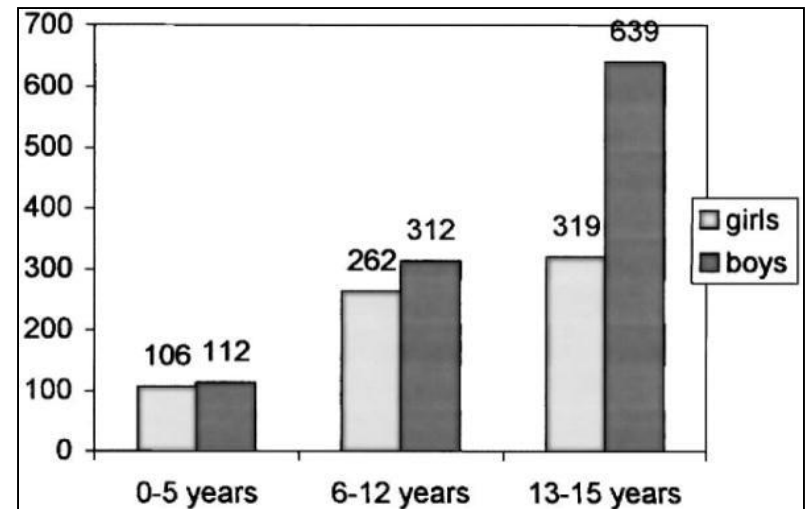
Bruddfordeling i prosent av alle brudd Ahus 2010, Randsborg



Brudd fordelt etter alder og kjønn



Ahus 2010, Randsborg



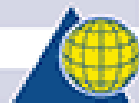
Brudvik og Hove, Bergen 1998

Sport	Distal radius	Hand	Foot	Distal humerus	Clavicle	Forearm	Tibia shaft	Ankle	Total Number
Playground	44	6	9	23	10	12	2	3	123
Soccer	69	42	21	7	5	6	1	9	169
Bicycle	38	14	2	8	9	9	6	1	103
Handball/volleyball/basketball	10	42	8	0	1	4	0	2	72
Rollerblades/rollerskates	32	7	5	5	1	6	3	1	66
Snowsledge	17	4	3	1	23	1	7	6	70
Alpine ski	10	11	1	1	10	2	11	2	64
Nordic	5	3		1	2	1	3	3	18
Snowboard	41	1	0	1	3	1	2	0	53
Skates	12	2	0	3	2	0	4	2	28
Trampoline	12	8	8	19	1	6	2	4	76
Horsebackriding	0	0	1	3	3	1	0	0	13
Martial Arts	2	2	6	0	1	0		1	12
Total number	436	247	158	110	107	74	68	50	

Most common fractures by most common sport activity.

Healing times for nonoperative treatment

All timings in days		Immobilise	Notes	Weight bearing	Return to sport
Phalanx		10	Generally with controlled mobilisation	20	
MC 2-4		10	Generally with controlled mobilisation	20	
MC 1		14			28
Radius	distal	21	Relative immobilisation if stable		35
	shaft	42	Reduce if < 6 years		56
	neck	20	Mobilise earlier if stable or stabilised	35	
Ulna	distal	21	Relative immobilisation if stable		35
	shaft	42	Reduce if < 6 years		56
	proximal	21			35
Humerus	Distal supracondylar	21	Enough even if reduced and wired	35	
	lat condylar	28	Can be slow to heal		42
	medial epicondylar	21	Mobilise even if not united radiologically	35	
	shaft	42	Reduce if < 6 years		70
	proximal	21	Gentle mobilisation during healing	35	
Clavicle		21			35
Pelvis		42		42	84
Femur	proximal	42	Generally fixed	42	84
	shaft	42	Reduce if < 6 years	42	84
	distal	42		42	84
Tibia	proximal	42		35 in cast	56
	shaft	42		28 in cast	56
	shaft	42		28 in cast	56
	distal	42		28 in cast	56
	distal epiphyseal	35		21 in cast	56
Fibula	shaft	0	If isolated injury	immediate	21
Ankle		0 - 21	if stable	immediate	35
Foot	Metatarsals	21	reduce if < 6 years		35
	Phalanges	14			21



Håndleddsbrudd

DRF

Distal radiusfraktur

Colles

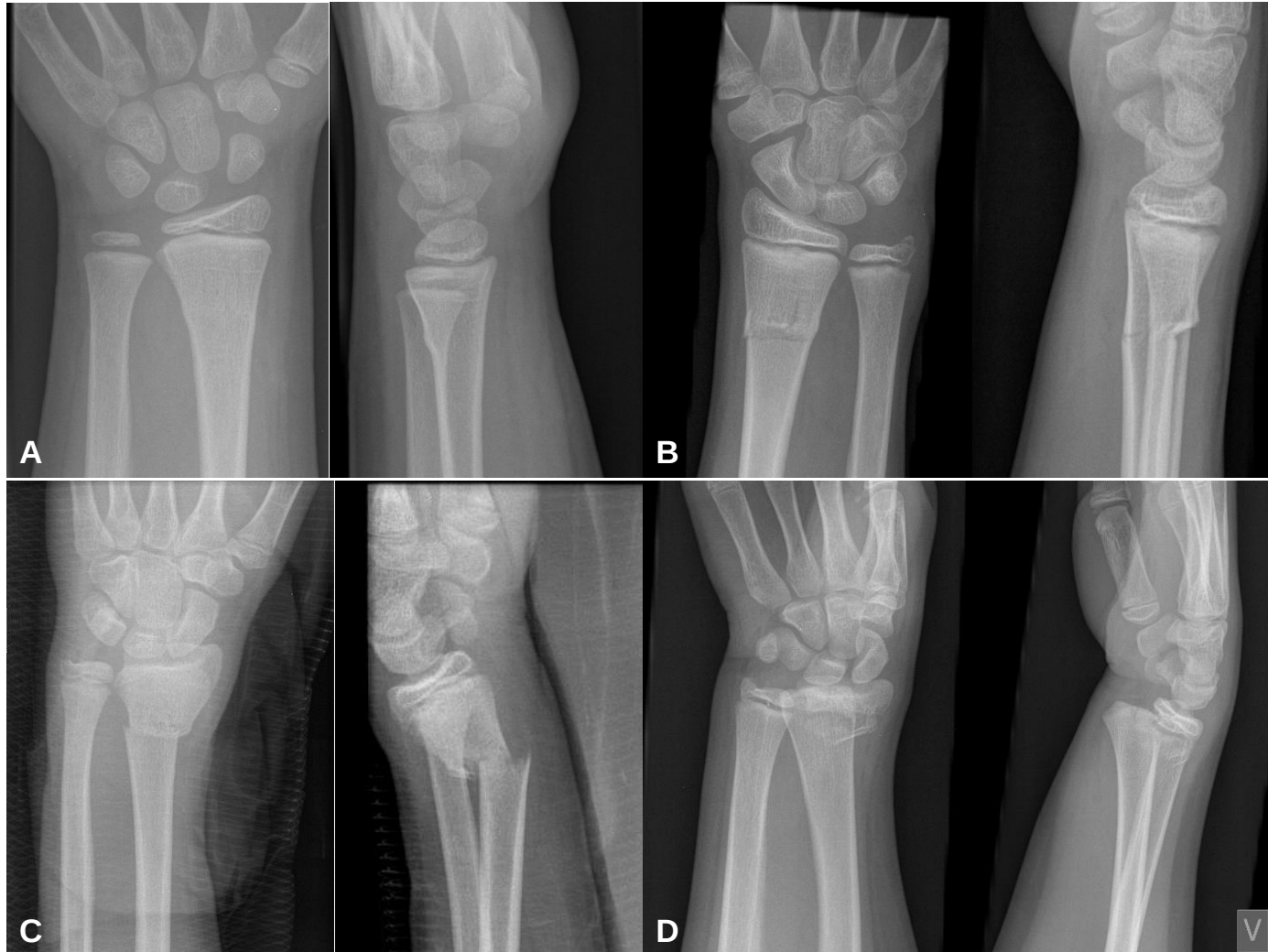
Smiths

Distal radiusfraktur – Håndleddsbrudd

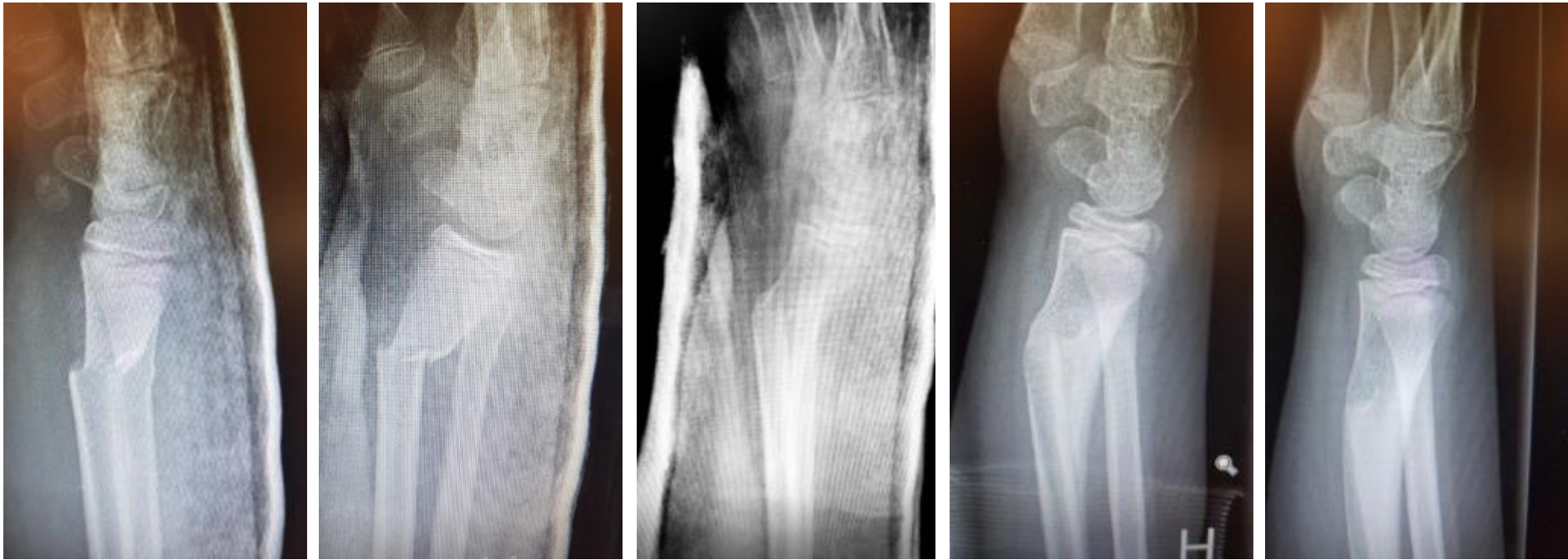
Oversikt over epidemiologiske studier

Forfatter	Alders gruppe	År for data-innsamling	Land	Insidens per 10000	Vanligste brudd
Landin	0–16	1950–1979	Sverige	212	Distal underarm 23%
Cooper	0–17	1988	Storbritannia	133	Underarm 30%
Kopjar	0–12	1992–1995	Norge	128	Distal radius 27%
Tiderius	0–16	1993–1994	Sverige	193	Distal underarm 26%
Lyons ^a	0–14	1996	Skandinavia	156–178	Underarm 20%
Lyons ^b	0–14	1996	Wales	361	Underarm 36%
Brudvik	0–15	1998	Norge	245	Distal underarm 27%
Rennie	0–15	2000	Skottland	202	Distal underarm 33%
Hedström	0–19	1993–2007	Sverige	201	Distal underarm 26%
Randsborg	0-16	2010-2011	Norge	180	Distal radius 31%

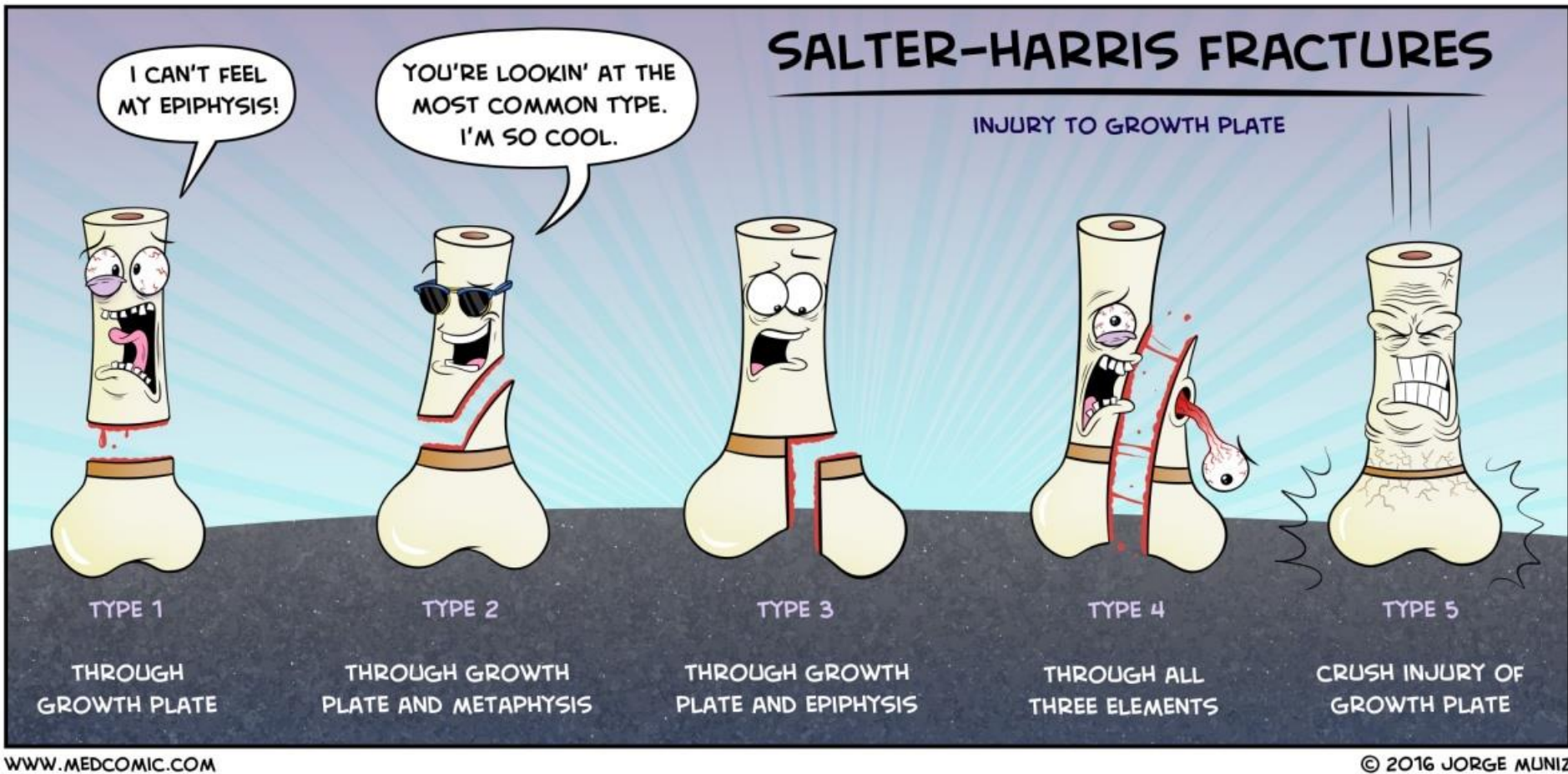
Klassifisering av håndleddsbrudd hos barn



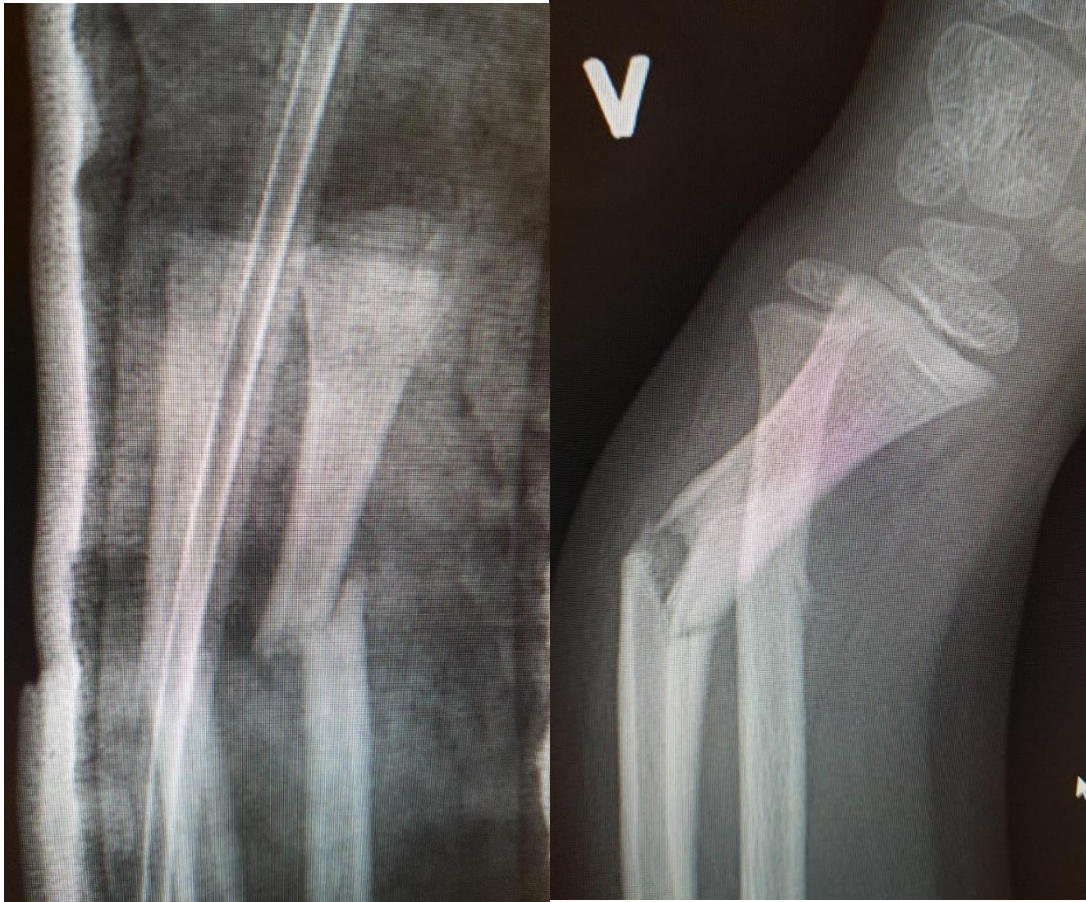
Greenstickfx forløp



Epifysiolyse



Komplett fraktur



Behandling

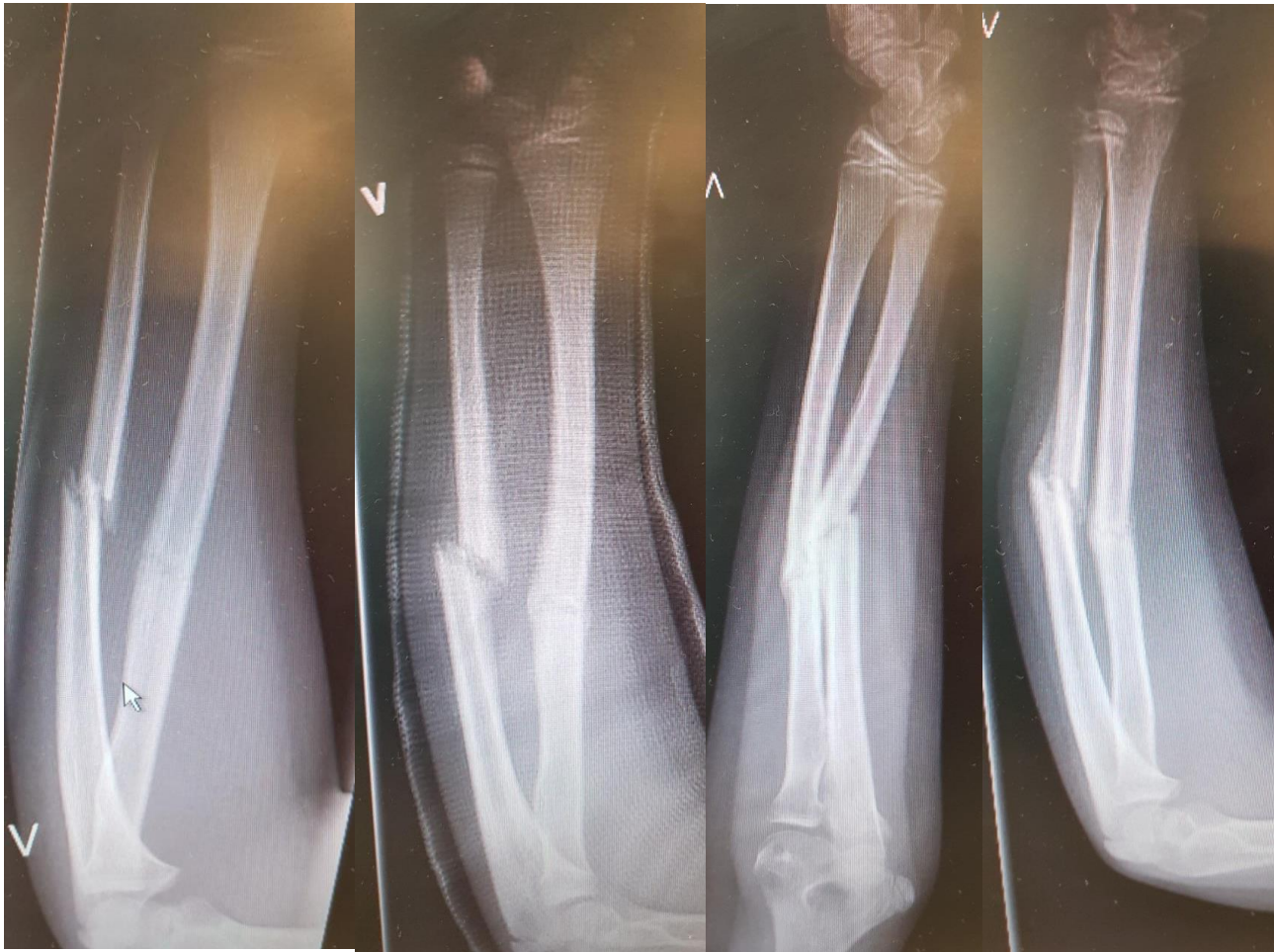


TEN



Pinning

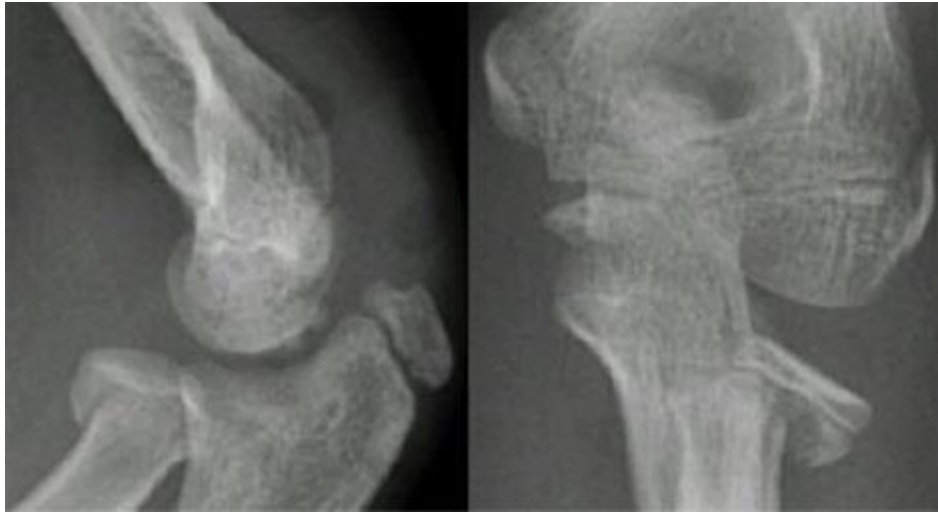
Skaft radius/ulna



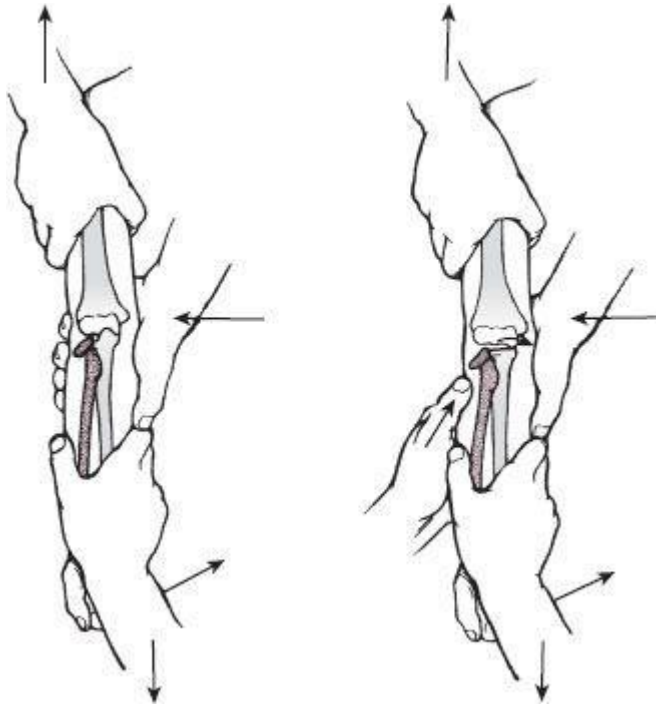
Behandling



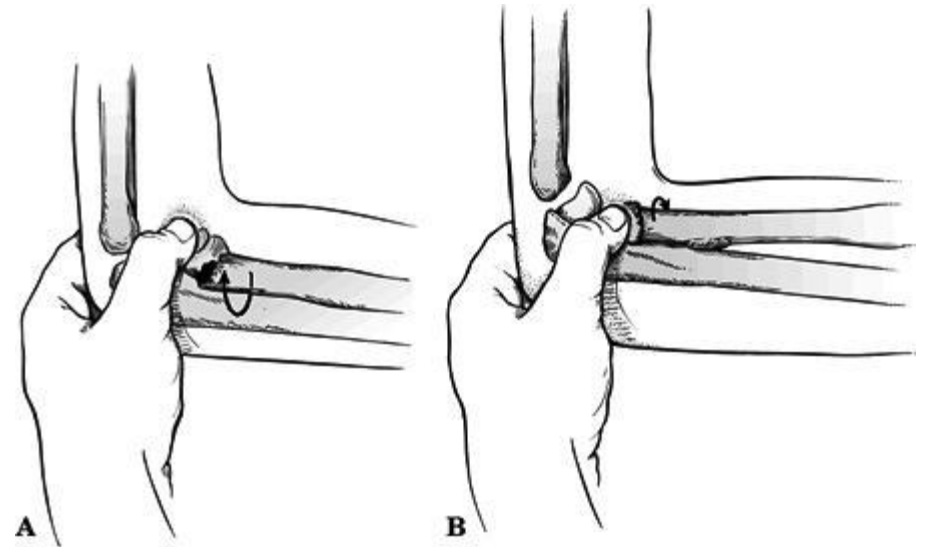
Caput radii frakturer



Lukket reposisjon

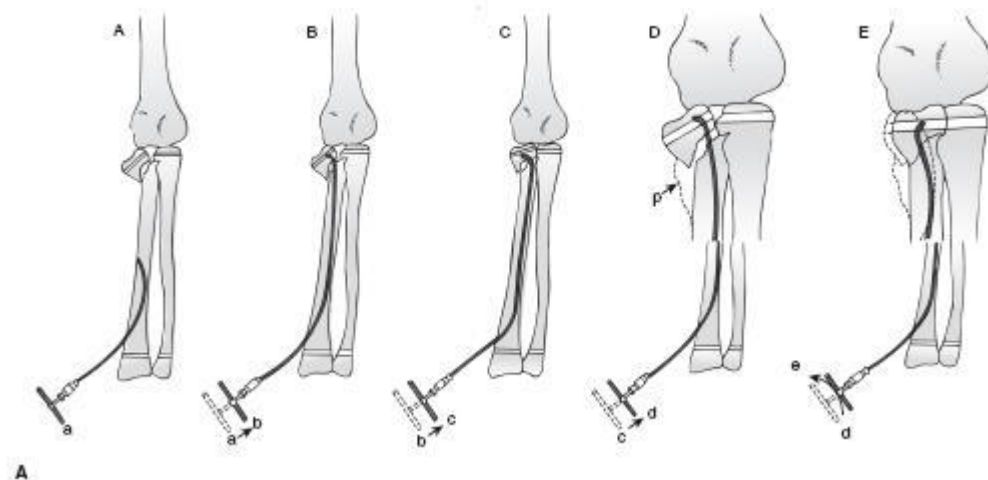


- Patterson manøver



- Israeli teknikken

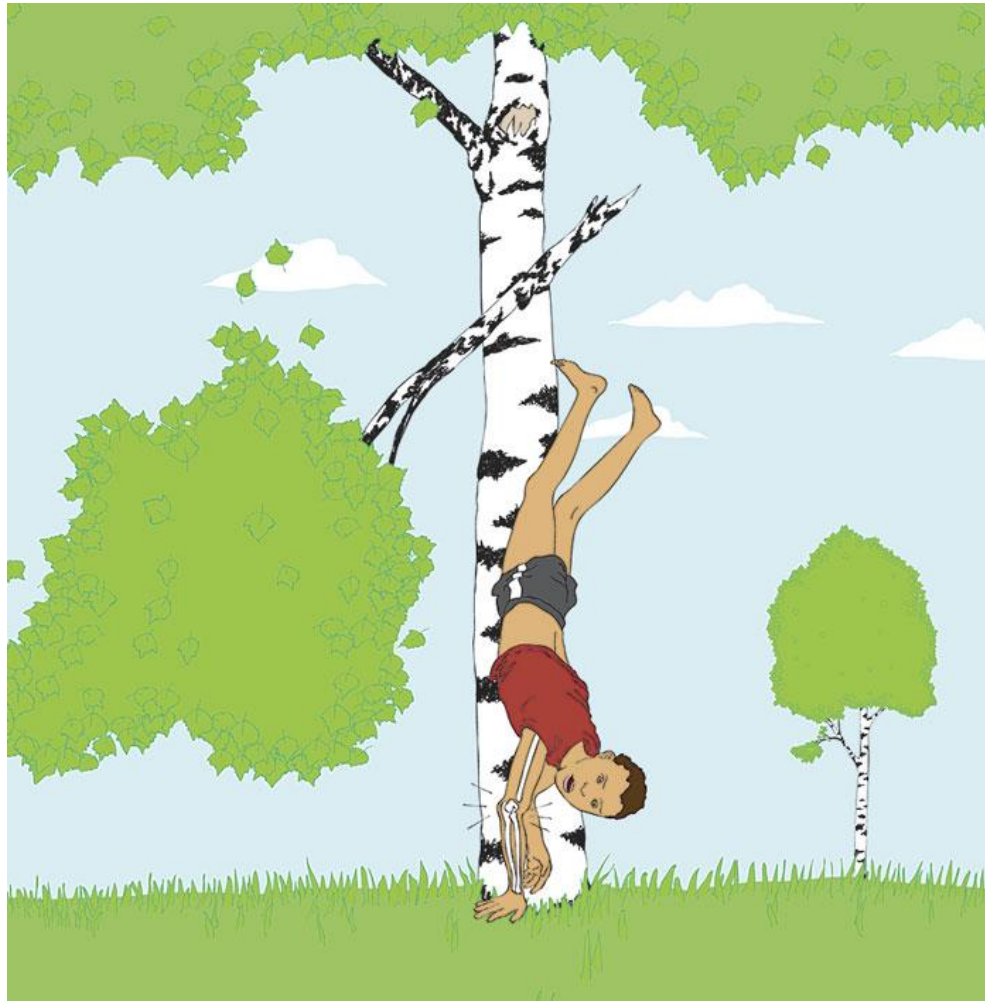
Metaizeau Technique



Joystick



Suprakondylære humerusfrakturer



Klassifikasjon



Gartland
Type 1



Gartland
Type 2



Gartland
Type 3

Gartland 1

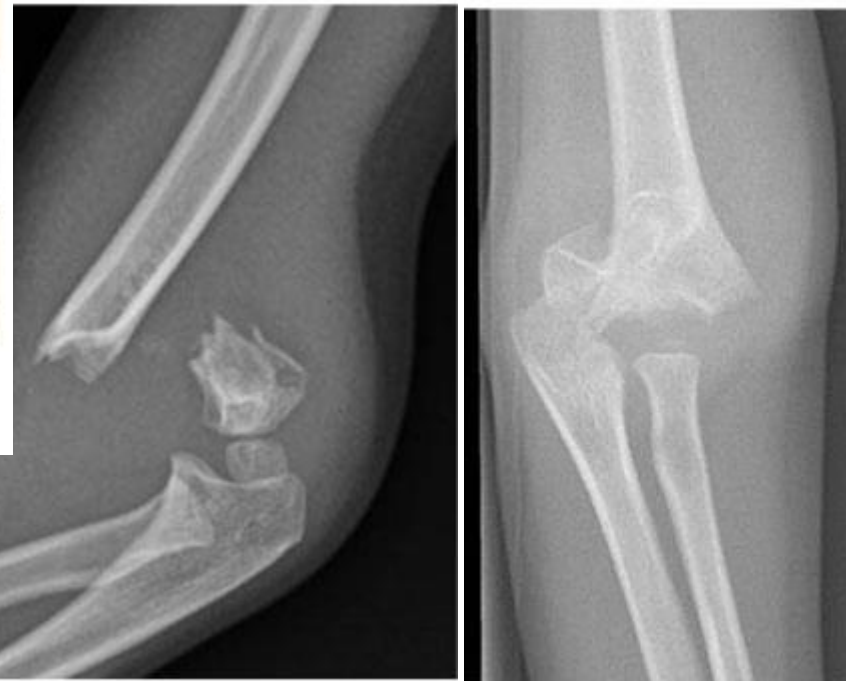
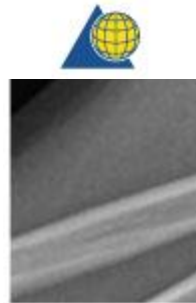


- Gips 3-4 uker

Gartland 2



Gartland 3



Disloserte suprakondylære humerusfrakturer hos barn

En retrospektiv oppfølgingsstudie av pasienter operert med
perkutan pinning i perioden 1999-2006

Randsborg, Sivertsen, Skråmm, Saltyte-Benth, Gulbrandsen*

The need for better analysis of observational studies in orthopedics: A
retrospective study of elbow fractures in children

Acta Orthop 2010;81 (3): 377-381





SKADEMEKANISME	Antall	Prosent
Trampoline	22	19,3
Lekestativ	19	16,7
Fall ute (Uspesifisert)	16	14,0
Fall inne (Uspesifisert)	12	10,5
Sykkel	8	7,0
Huske	8	7,0
Fall fra tre	7	6,1
Fall i barnehagen (uspesifisert)	5	4,4
Fall fra seng eller sofa	4	3,5
Fall fra hest	2	1,8
Fotball	2	1,8
Fall fra gjerde	2	1,8
Ukjent	6	5,3
<i>Totalt</i>	<i>114</i>	<i>100 %</i>

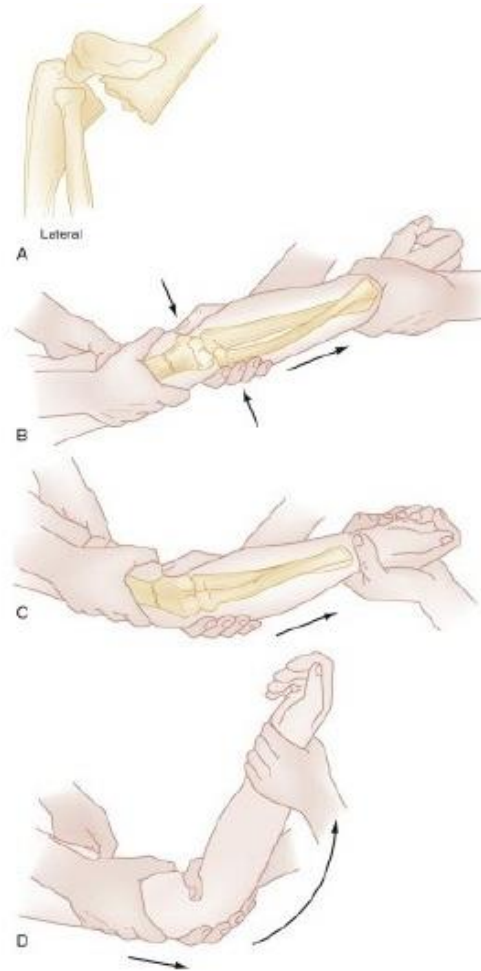
Jente som falt fra klatrestativ



Behandling – Gartland 2 & 3



Steps in
reduction of a
displaced
supracondylar
fracture



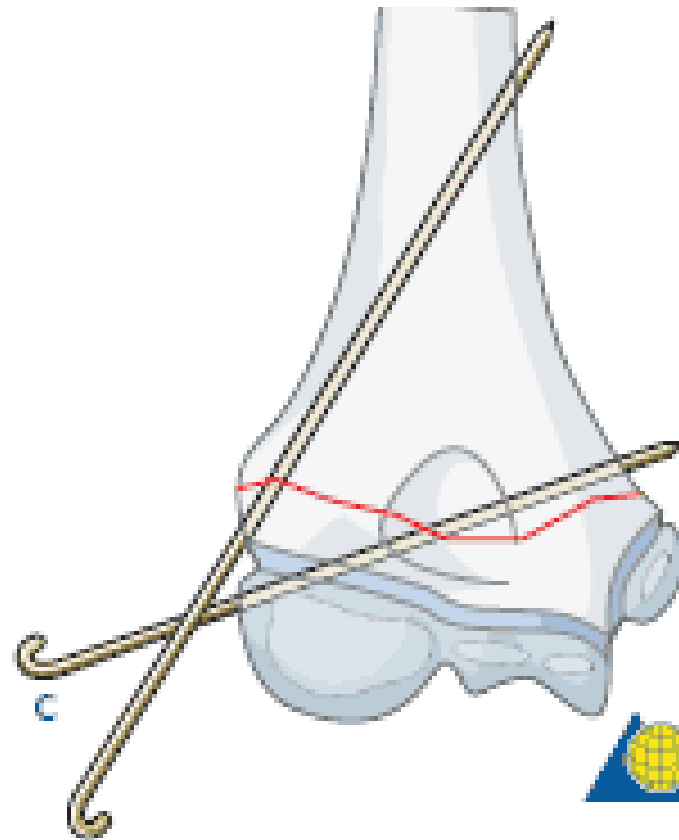
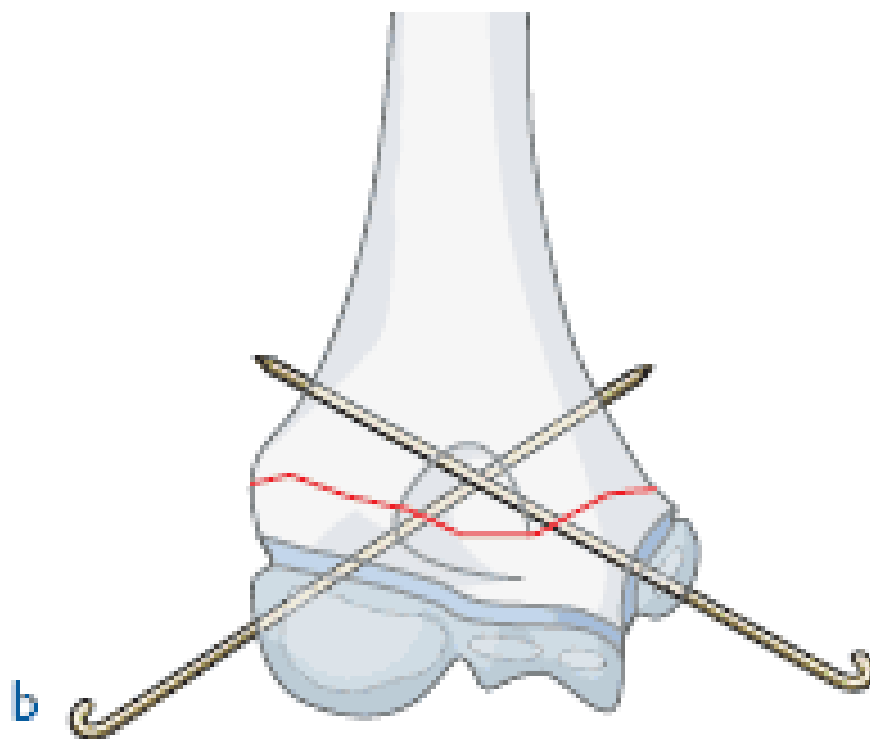
Ktr 4u etter lukket reposisjon og pinning



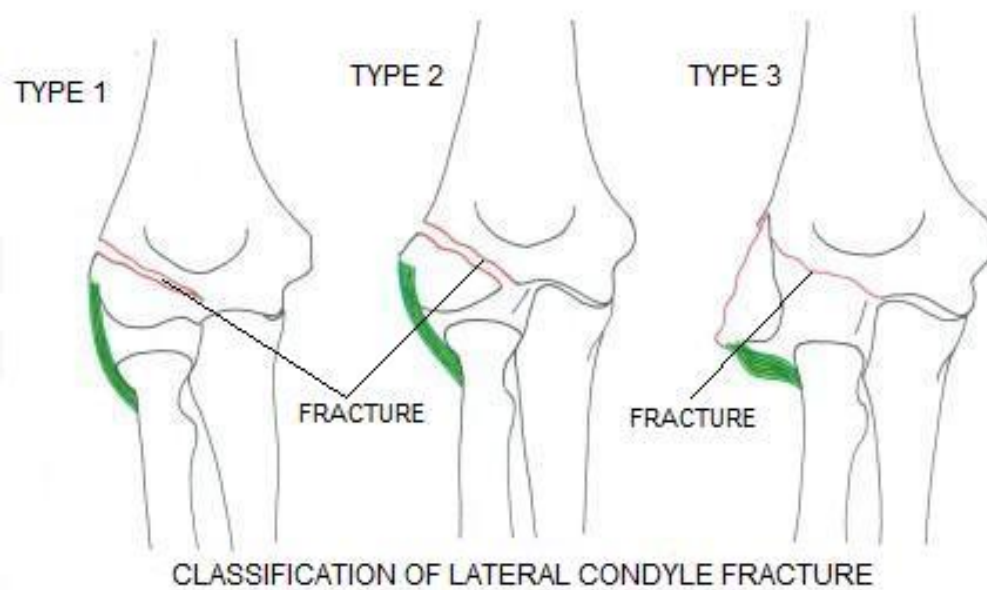
- Fjerner gips og pinner



- Full ROM noen dager etterpå



Lateral epikondylfraktur humerus



Behandling



Medial epikondylfraktur

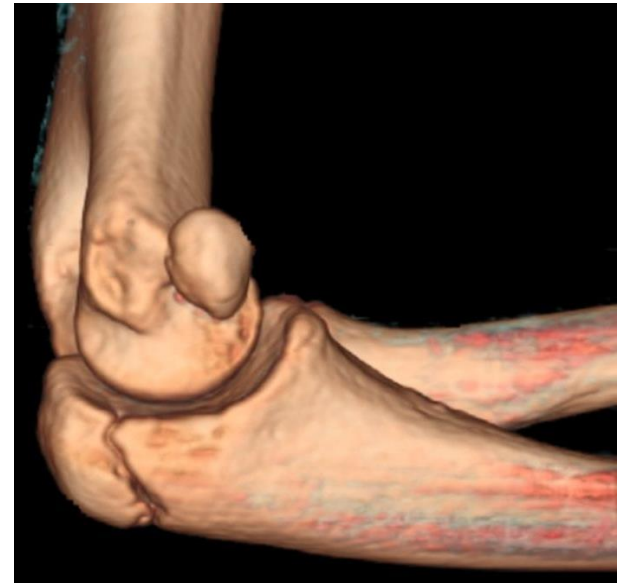


Hjørnefraktur

Medial epikondylfraktur



- Anamnese
- Undersøkelse
- Radiologi



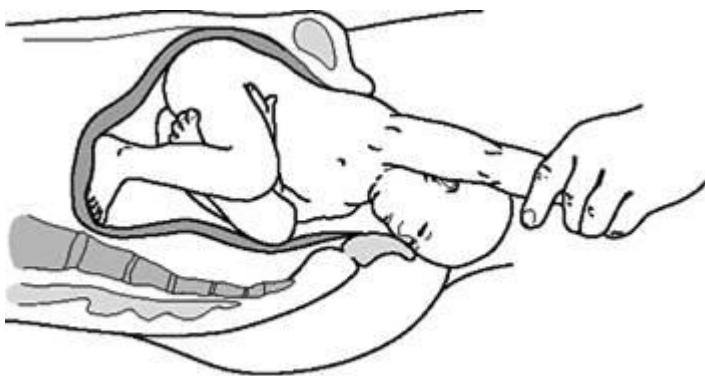
Behandling



Humerusskaffrakturer



Fraktur i forbindelse med fødsel



It's a kind of magic

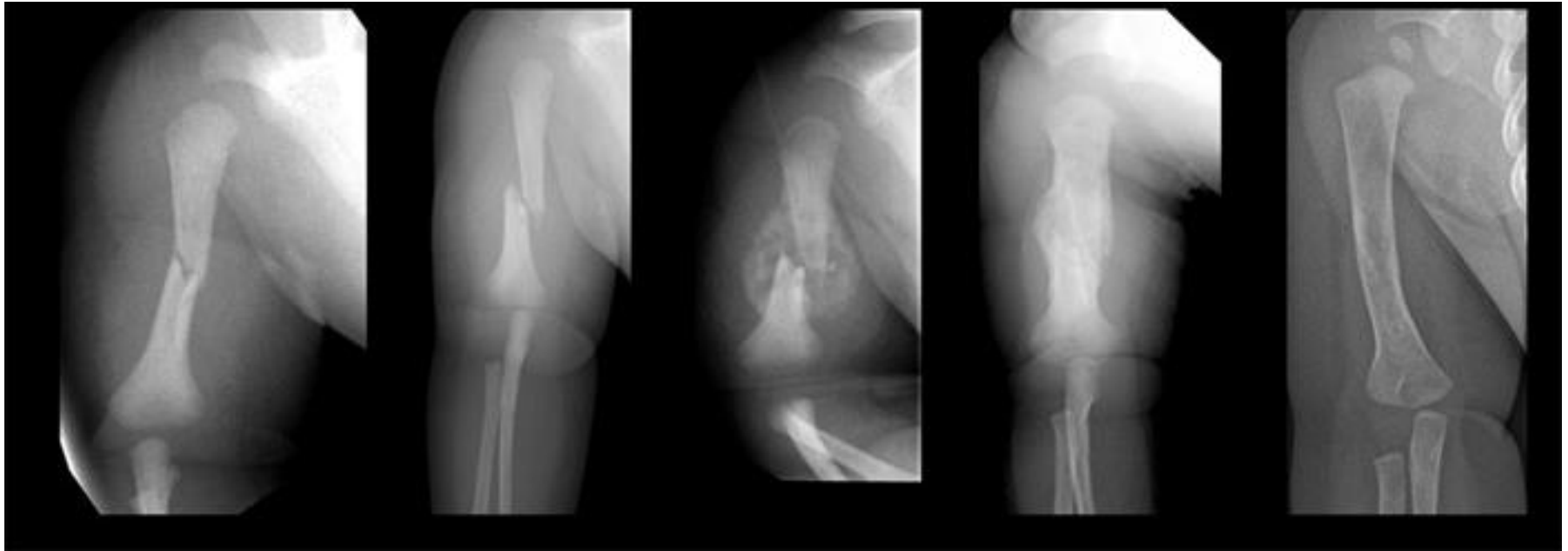
Dag 1

Dag 4

1 uke

2 uker

6 mndr



Spiralfrakturer på småbarn



Konservativ behandling



- Fatle 3-6 uker
- U-laske/ortose > 12 år

Operativ behandling



Proksimal humerusfraktur



Behandling

- **Konservativ**

- <10 år = graden av vinkelfeilstilling uvesentlig
- 10-12 år = $60-75^\circ$ feilstilling
- >12 år = 45° feilstilling eller 2/3 benbreddes dislokasjon

- **Operativ**

- Alignment utenfor grensene over
- Interponat som gjør at man ikke får akseptabel stilling
 - Biceps lange hode, Leddkapsel, Periost, Deltoidmuskelen
- Åpne frakturer
- Karskade
- Intraartikulær feilstilling

Barn er fantastiske på mange måter



Behandling



Claviculafraktur



Kragebeinsbrudd ved fødsel





POSNA
PEDIATRIC ORTHOPAEDIC SOCIETY
OF NORTH AMERICA

AAOS



AAOS/POSNA/AAHS Controversial Fracture Treatment of the Pediatric Upper Extremity: Should We Operate or Not?

January 30, 2018

Konservativ behandling



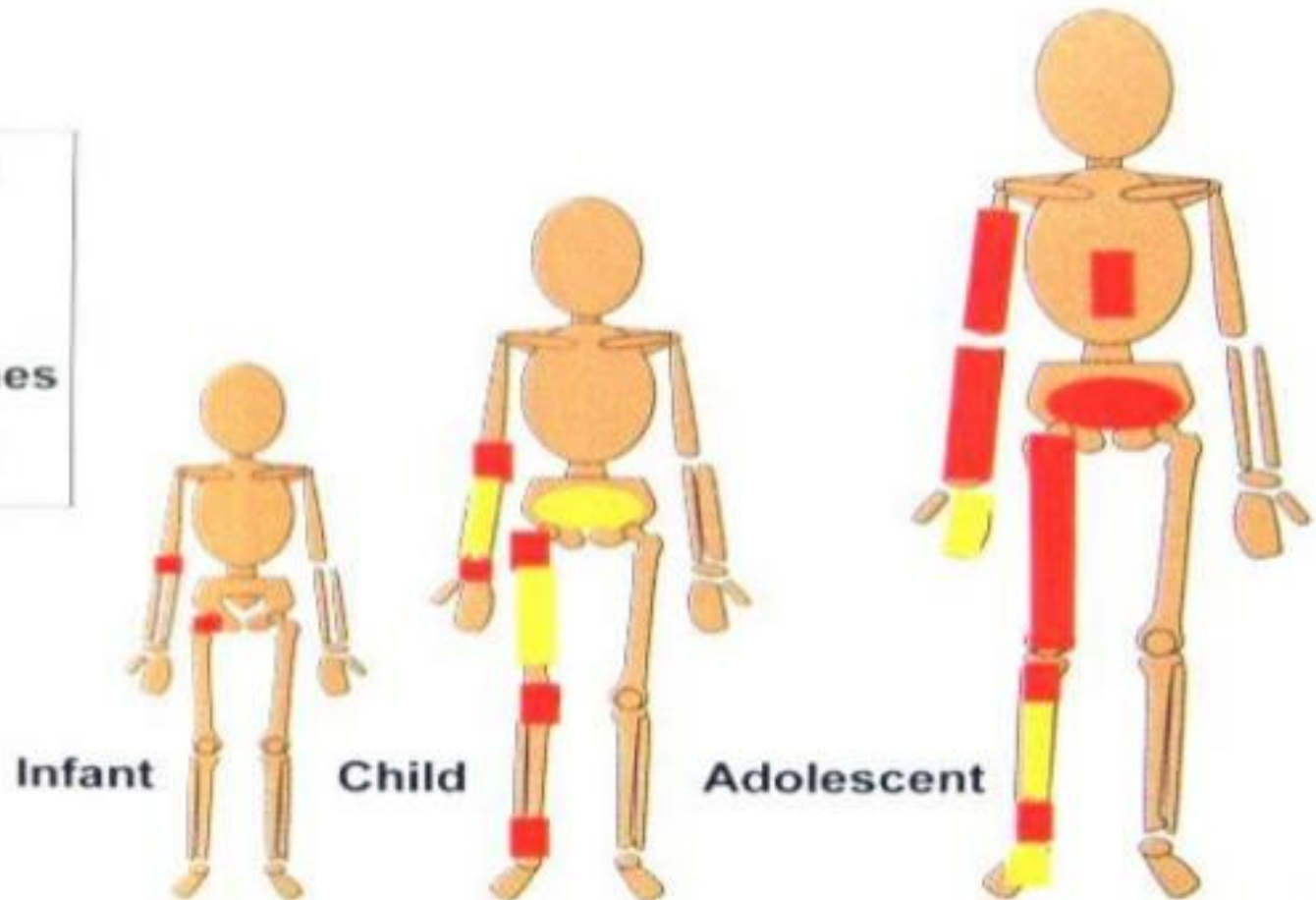
Operasjon



- Forkortning > 2cm
- Åpen fx
- Multitraume
- Floating shoulder
- Nerve/Karskade
- Truende hudperforasjon



LATHUND





God helg