

- ORTODONTİDE EL-BİLEK
RADYOGRAFİLERİNİN
DEĞERLENDİRİLMESİ

Prof. Dr. F.ERHAN ÖZDİLER

Ankara Üniversitesi
Diş Hekimliği Fakültesi



**İnsanlar ağaçlardan
ders almalıdırlar..**

**Ne üzerinde barınan kuşların ,
ne gölgesinde yatan insanların ,
ne de verdikleri yemişlerin
hesabını tutarlar..**

Kullanılan kaynaklar

- Arat.M., Köklü.A., **ÖZDİLER.E.**, Rübendüz.M., Erdoğan.B.: Kraniofasiyal ve Dentoalveoler Yapılardaki Gelişimin İskelet Olgunluk Kriterleri Dikkate Alınarak İncelenmesi. *Türk Ort.Derg.* 10 (1):1-10, 1997
- **ÖZDİLER.E.**, M O Akcam.
The effects of functional treatment on the sagittal position of mandibular condyle. *Journal of Oral Science*, 42(4): 195-203, 2000.
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- [Arat M, Koklu A,, **ÖZDİLER.E** Rubenduz M, Erdogan B.](#)
- Craniofacial growth and skeletal maturation: a mixed longitudinal study. *Eur J Orthod.* 2001 Aug;23(4):355-61.



Kiefer-orthopädie I

Orofaziale Entwicklung und Diagnostik

Herausgegeben von P. Diedrich

Mit Beiträgen von
W. Bauer, P. Diedrich, D. Drescher, U. Ehme

11/1
PRAXIS DER ZAHNHEILKUNDE

RADIOGRAPHIC ATLAS OF SKELETAL DEVELOPMENT OF THE HAND AND WRIST

SECOND EDITION

WILLIAM WALTER GREULICH
Professor of Anatomy, Stanford University School of Medicine

S. IDELL PYLE
*Research Associate, Departments of Anatomy, Western Reserve University
and Stanford University Schools of Medicine*

Diş Hekimliği Fakültesi
Kütüphane

Diş Hekimliği Fakültesi
Kütüphane
Tarih: 19.9.99
No: 262

STANFORD UNIVERSITY PRESS, STANFORD, CALIFORNIA
LONDON: OXFORD UNIVERSITY PRESS



Kiefer-orthopädie II

Therapie

Herausgegeben von P. Diedrich

Mit Beiträgen von
R. Berg, P. Bingler, P. Diedrich, H. Droschl, R. A. W. Fuhrmann,
K. Gerhardt, G. Göz, A. Hasund, A. Jäger, I. Jonas, B. Kahl-Nicke,
Ch. Katsaros, St. Kiliaridis, G. Komposch, Ch. J. Lux, R.-R. Mischke,
H. Panchez, M. Richter, I. Rudzki-Jansson, S. Ruf, E.-G. Sander,
C. W. Schwarze, H. G. Sergl, A. Stellzig-Eisenhauer, J. Tränkle,
H. Wehrheim, E. Witt, A. Zentner

4. Auflage

URBAN & FISCHER

11/1
PRAXIS DER ZAHNHEILKUNDE

ATATÜRK ÜNİVERSİTESİ
DİŞ HEKİMLİĞİ FAKÜLTESİ YAYINLARI

ORTODONTİ YÖNÜNDEN BÜYÜME VE GELİŞİM

Doç. Dr. Muzaffer GÜLYURT



KLINISCHE KEPHALOMETRIE FÜR DIE BERGEN-TECHNIK

von
ASBJÖRN HASUND

unter Mitarbeit von

Olav E. Bæe
Frits Jenatsche Kirsten Thunold
Kjartan Norderval Per Johan Wiath

Kieferorthopädische Abteilung des zahnärztlichen Institutes
der Universität in Bergen

BERGEN, NORWEGEN
1974

Fernröntgen-Diagnose Fernröntgen-Prognose für die Kieferorthopädische Allgemein- und Fachpraxis

Von Dr. Hugo Stockfisch
Fachzahnarzt für Kieferorthopädie, Stuttgart

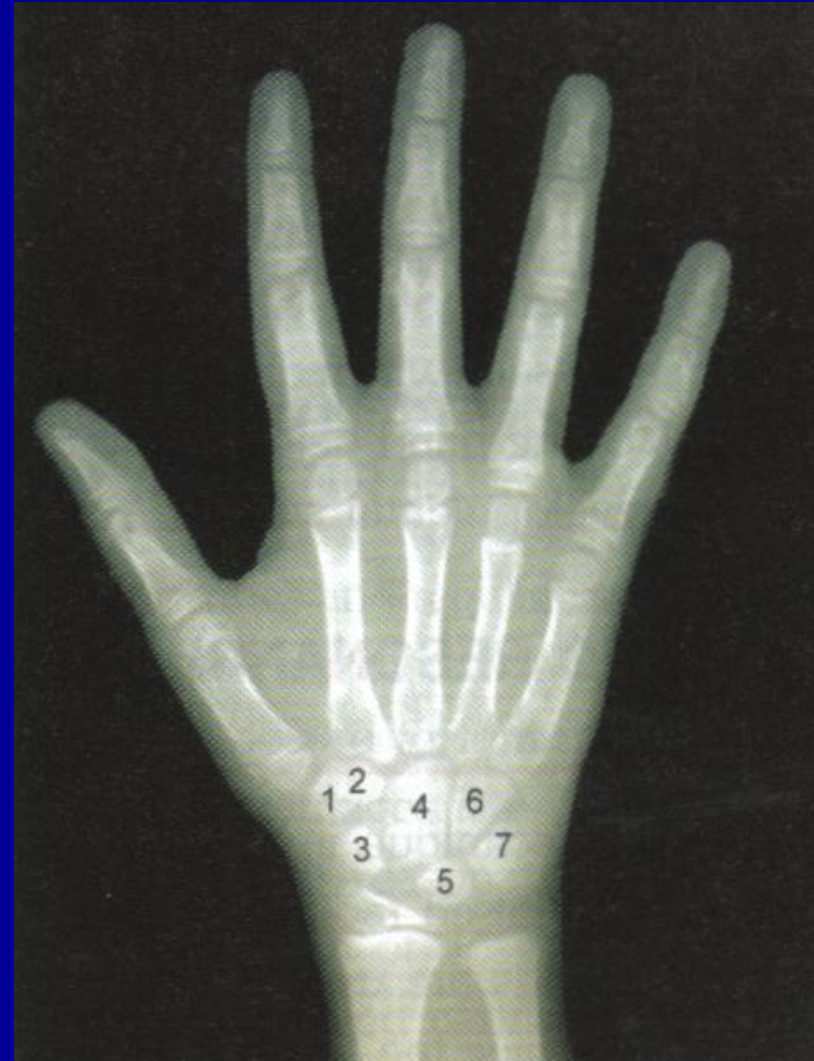
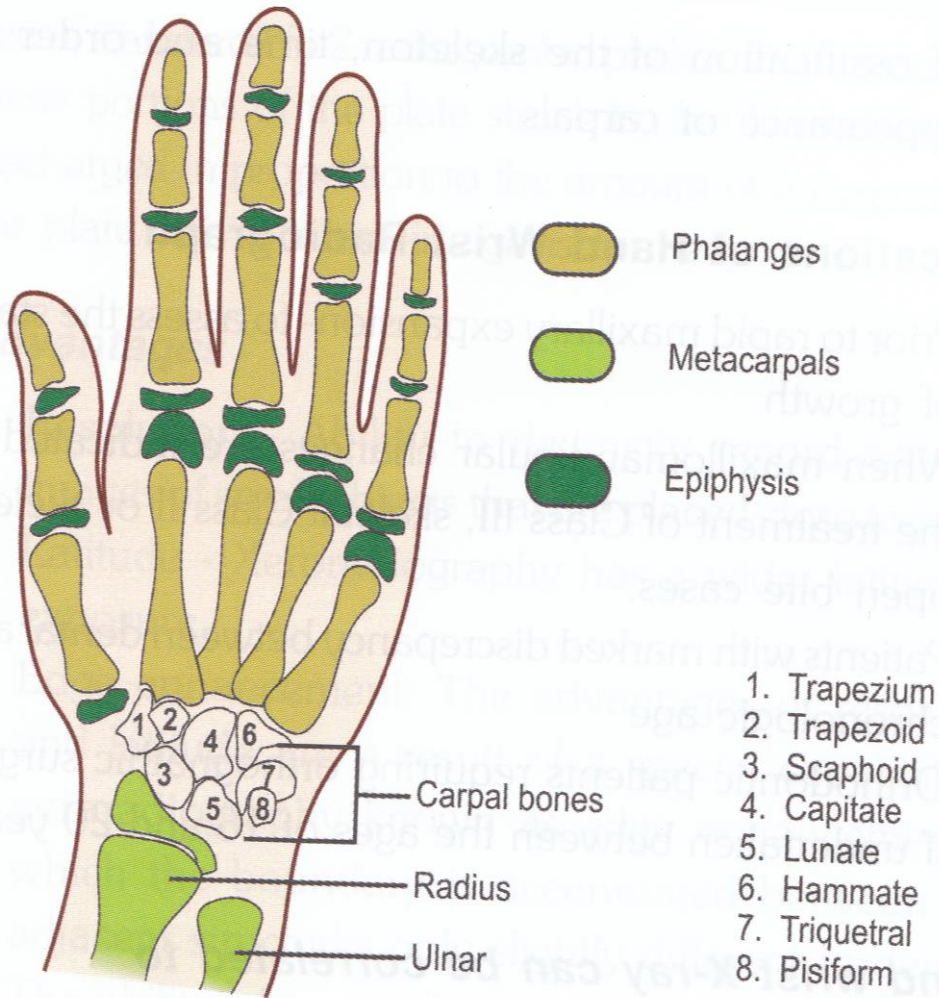
2
Second Edition

Principles and Practice of PEDODONTICS

Arathi Rao



JAYPEE



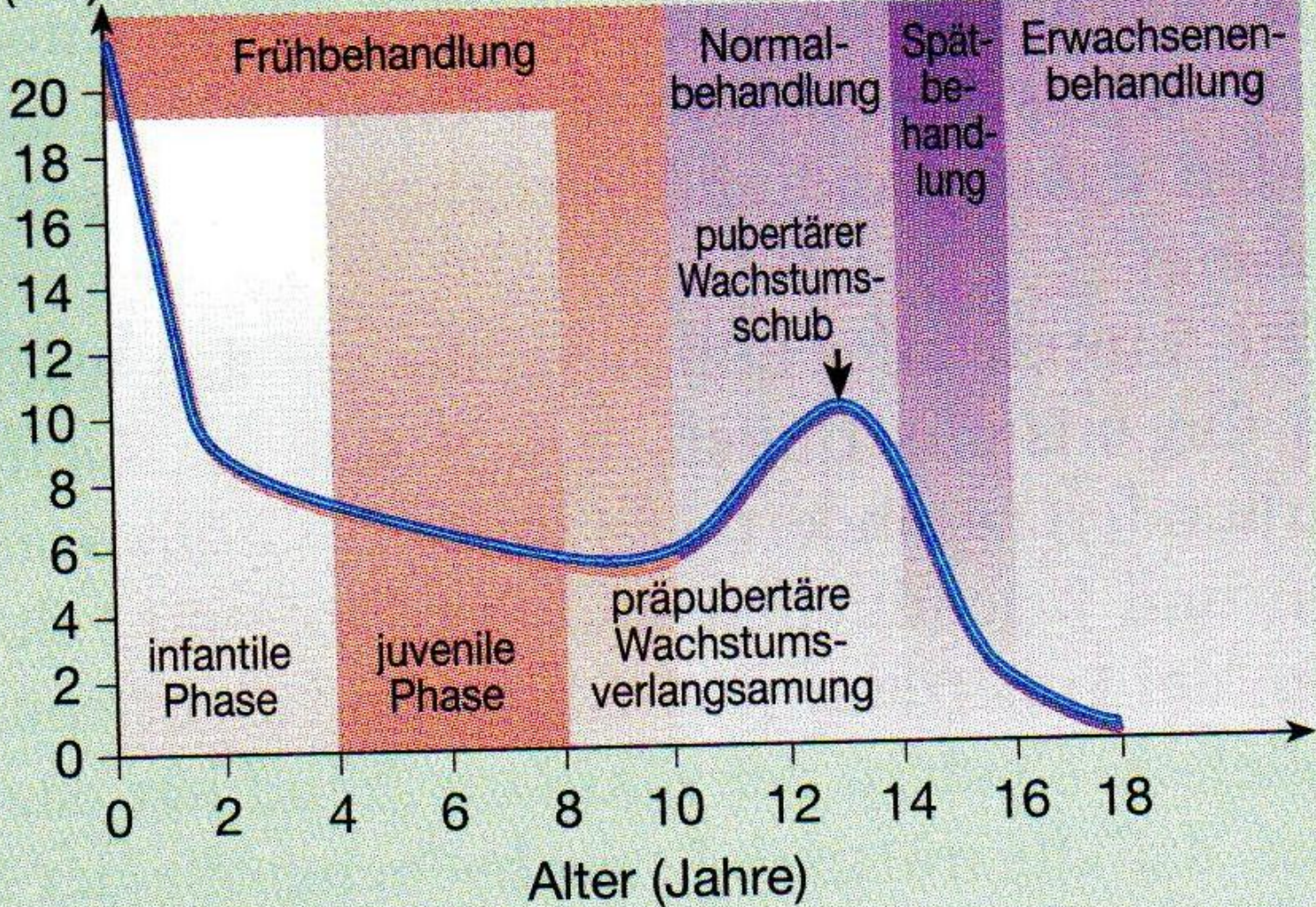
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Längenzunahme
pro Jahr
(cm)

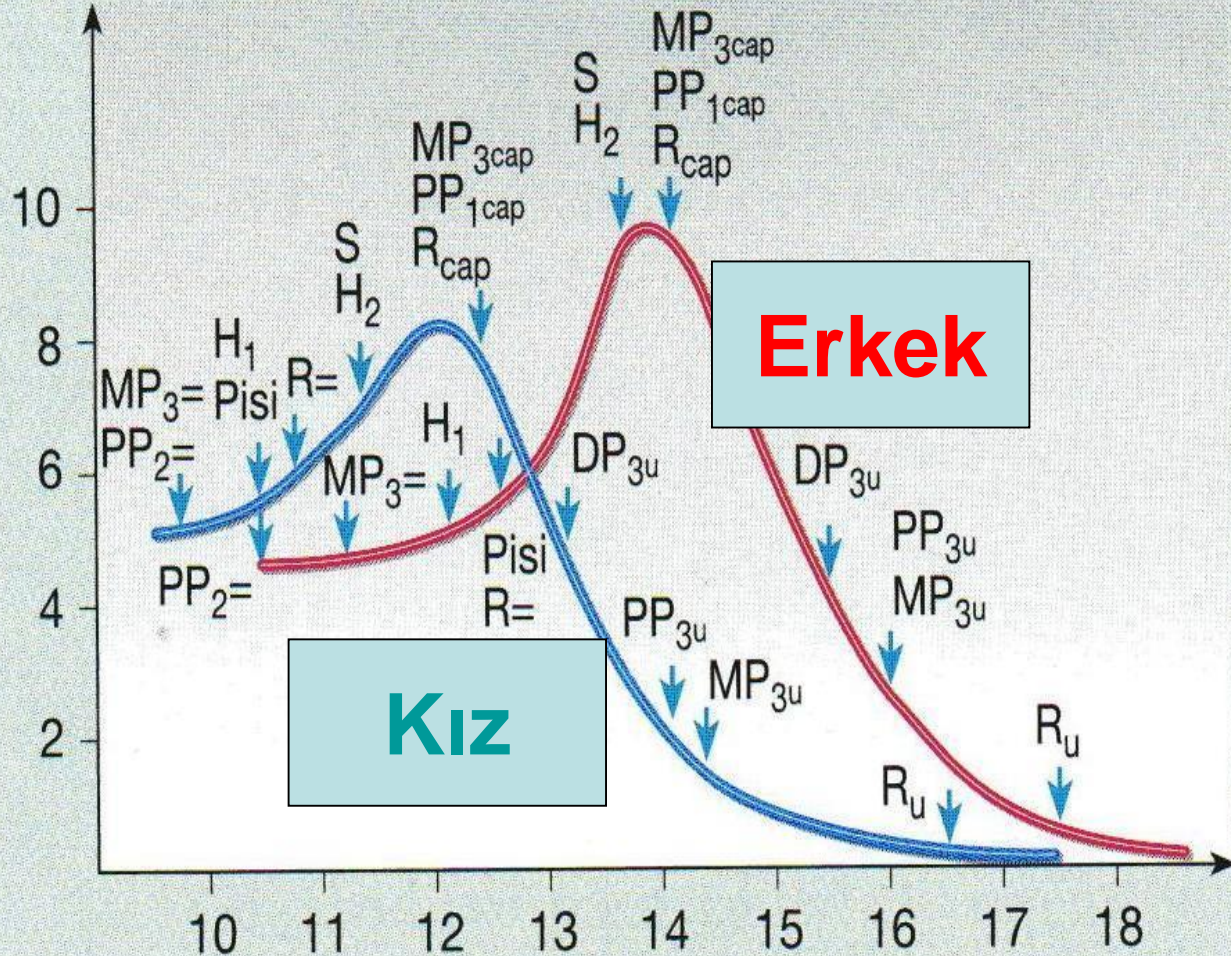
Kindheit

Jugend





YILLIK BÜYÜME (cm)

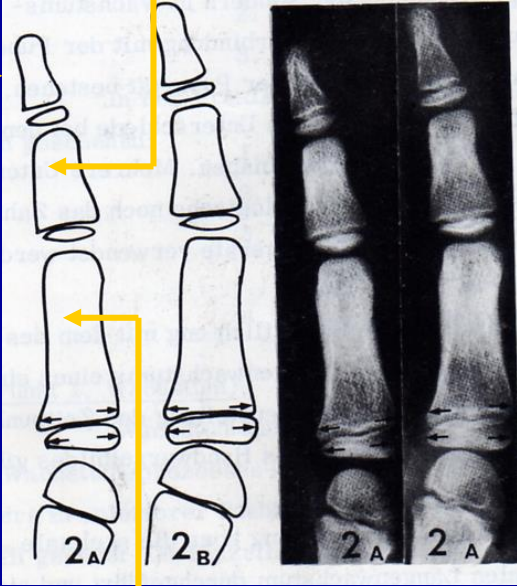


Erkek

Kız

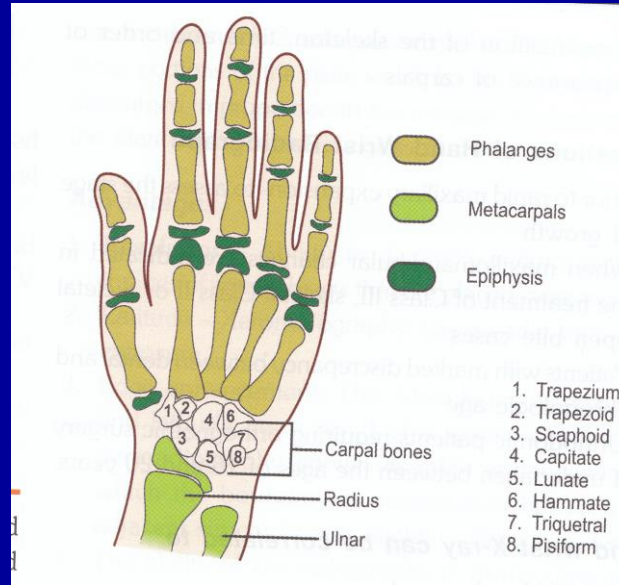
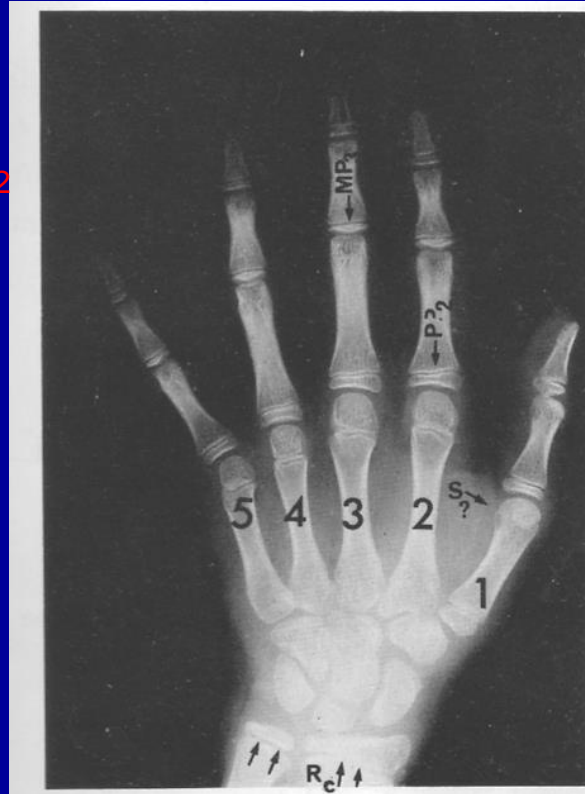
TAKVİM YAŞI

MEDIAL
PARMAK
KEMİĞİ: MP_2



PROKSİMAL
PARMAK
KEMİĞİ: PP_2

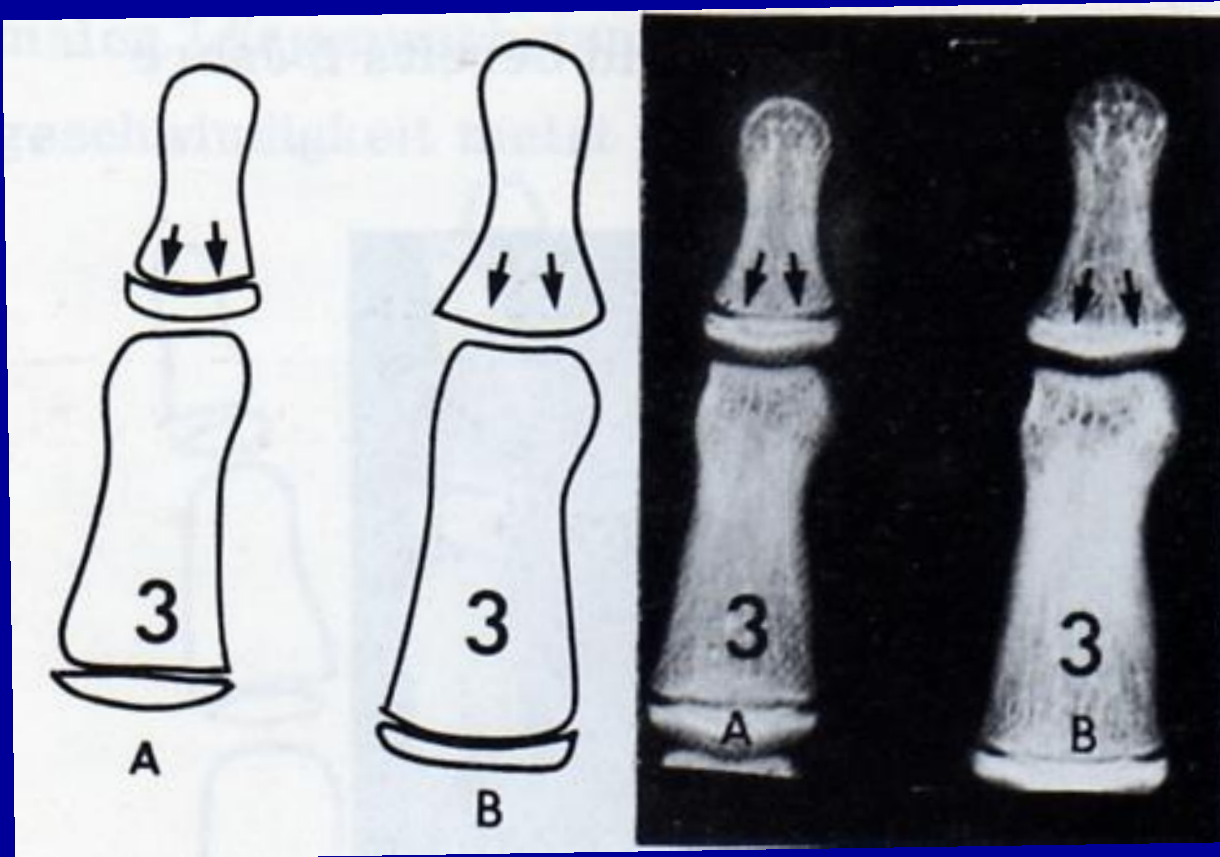
DİSTAL
PARMAK
KEMİĞİ: DP_2



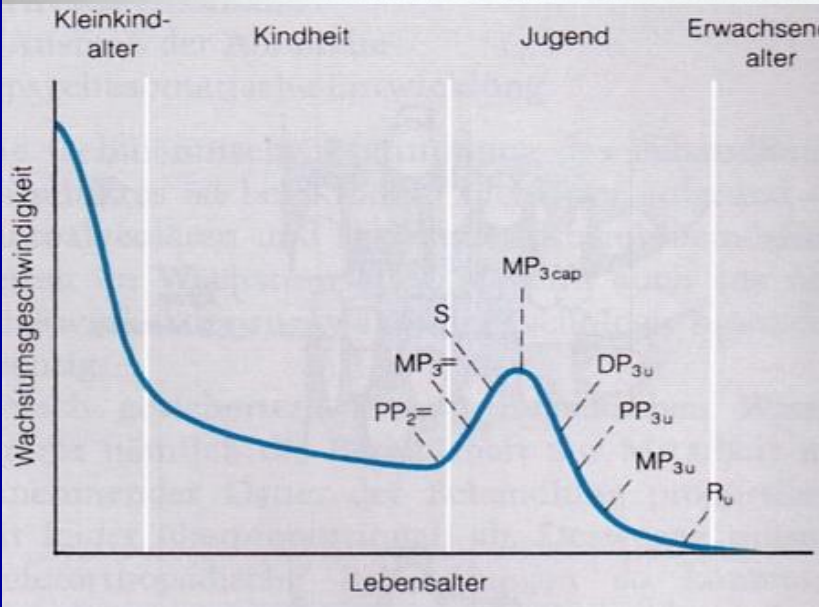
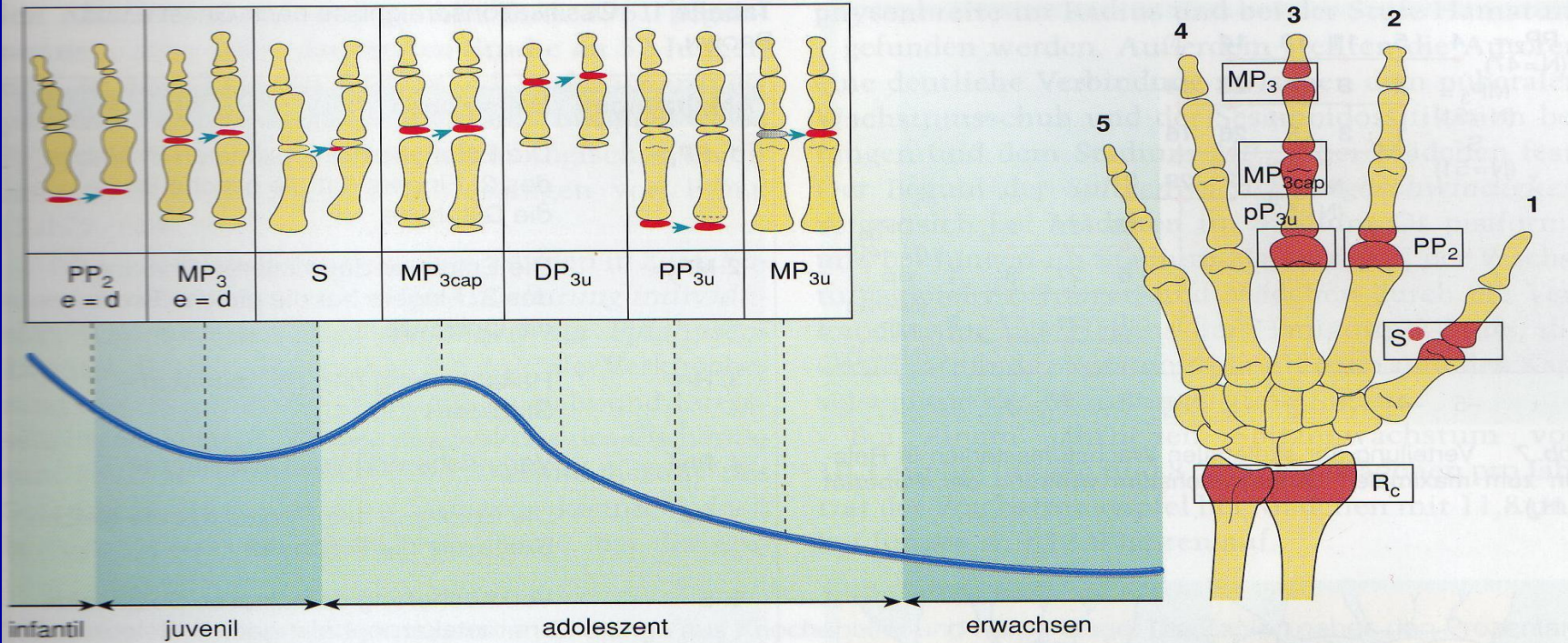
İSİMLENDİRME YÖNTEMİ

- PP_2 : 2. Parmağın Proksimal Kısımındır.

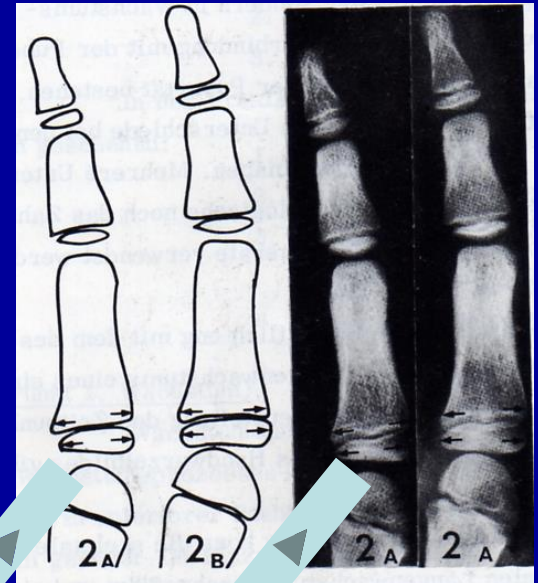
- MP_{3cap} : 3. Parmağın Medial Kısımındaki epifizin kapsül şekline dönüşme biçimidir.
- DP_{3u} : 3. Parmağın Distal Kısımındaki epifizin diafizle kaynaşma halidir.



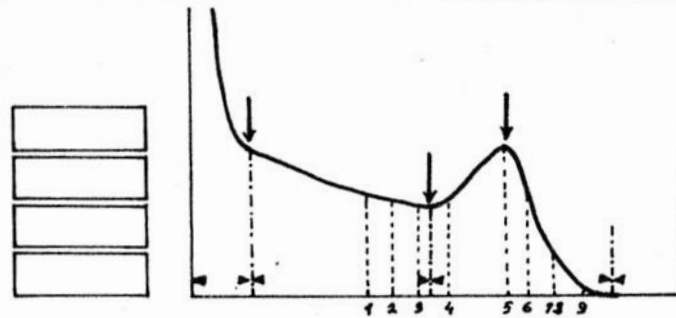
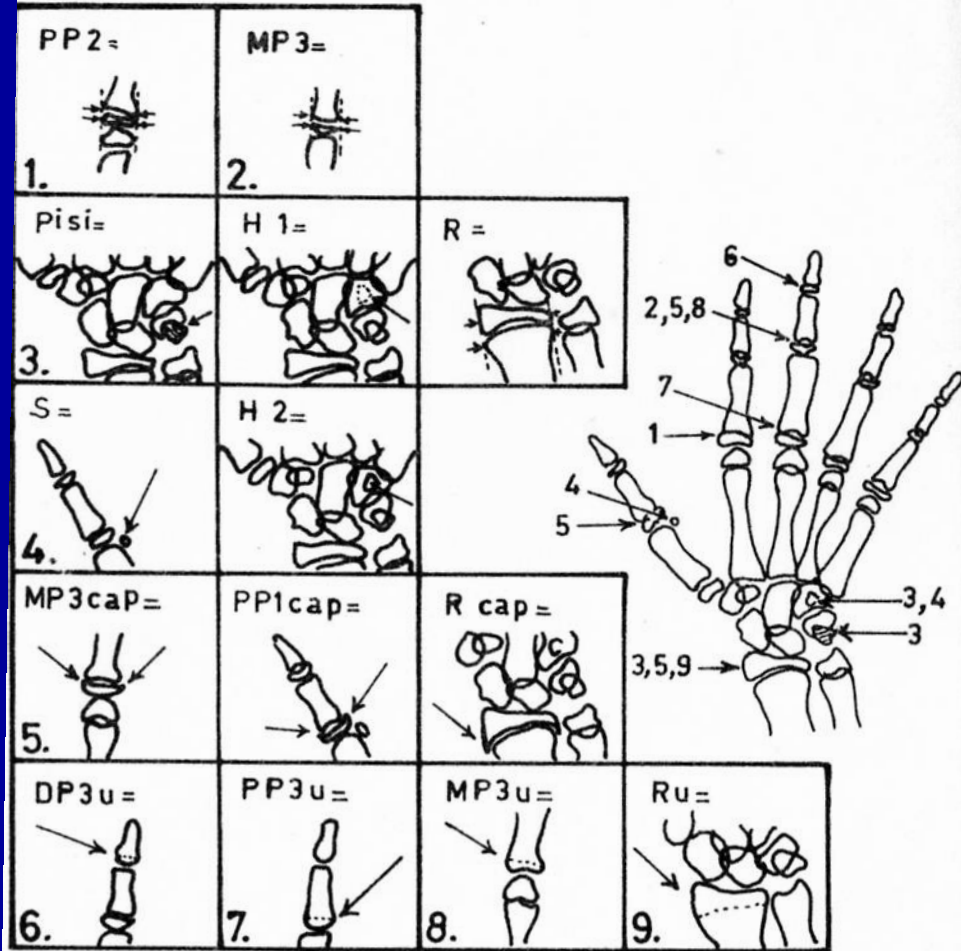
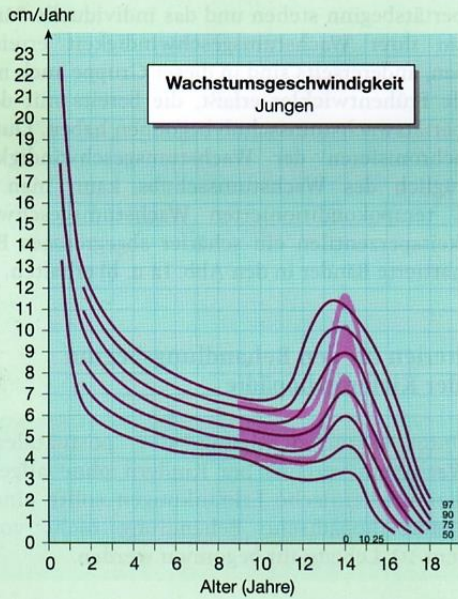
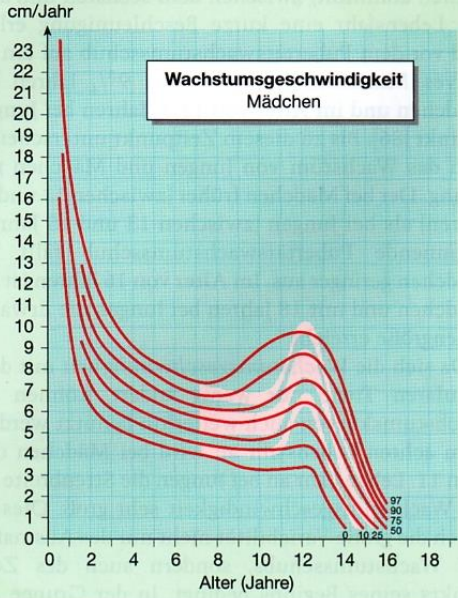
- **DP 3U: 3. Parmağın Distal Kısımındaki epifizin diafizle kaynaşma halidir.**



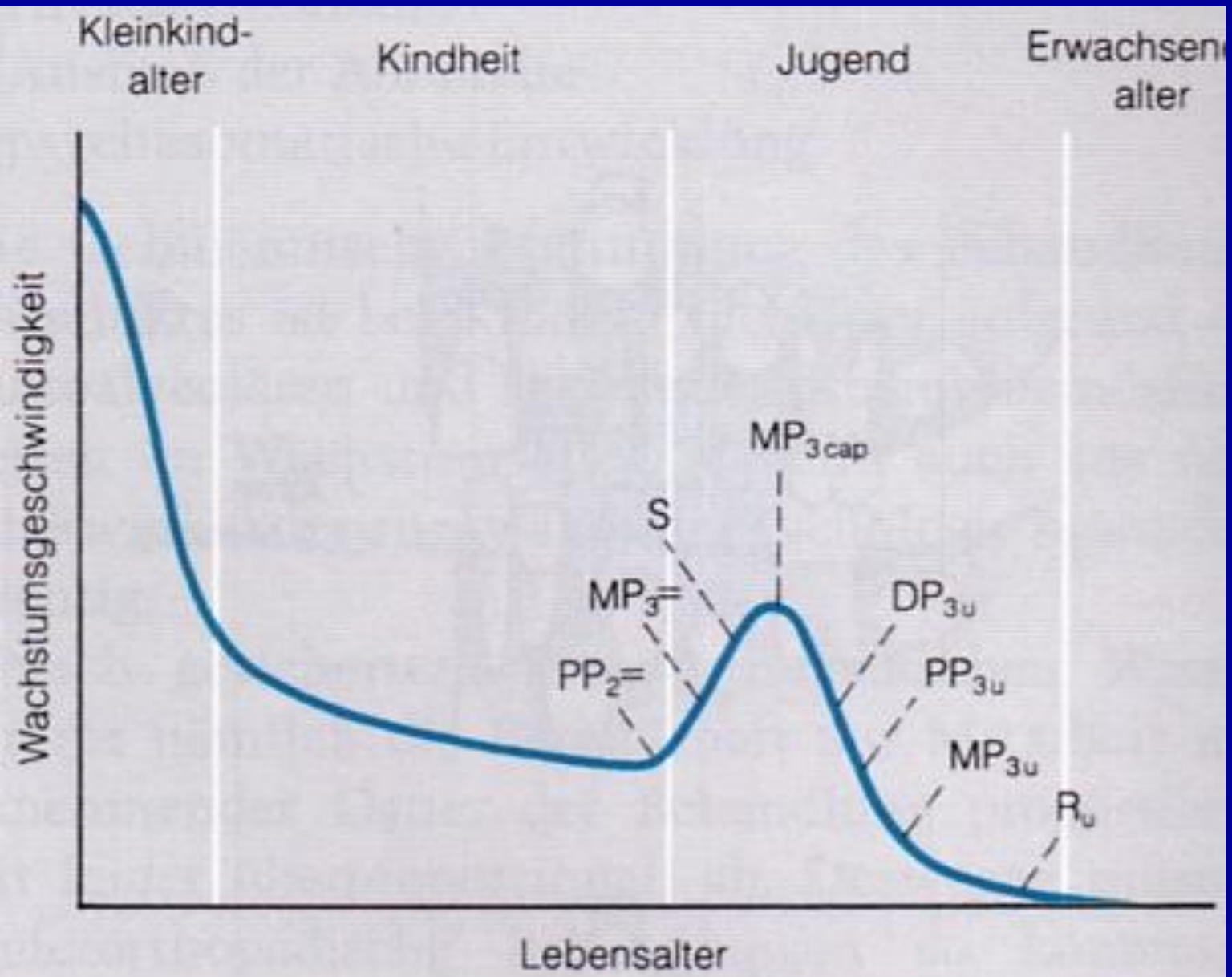
PP₂

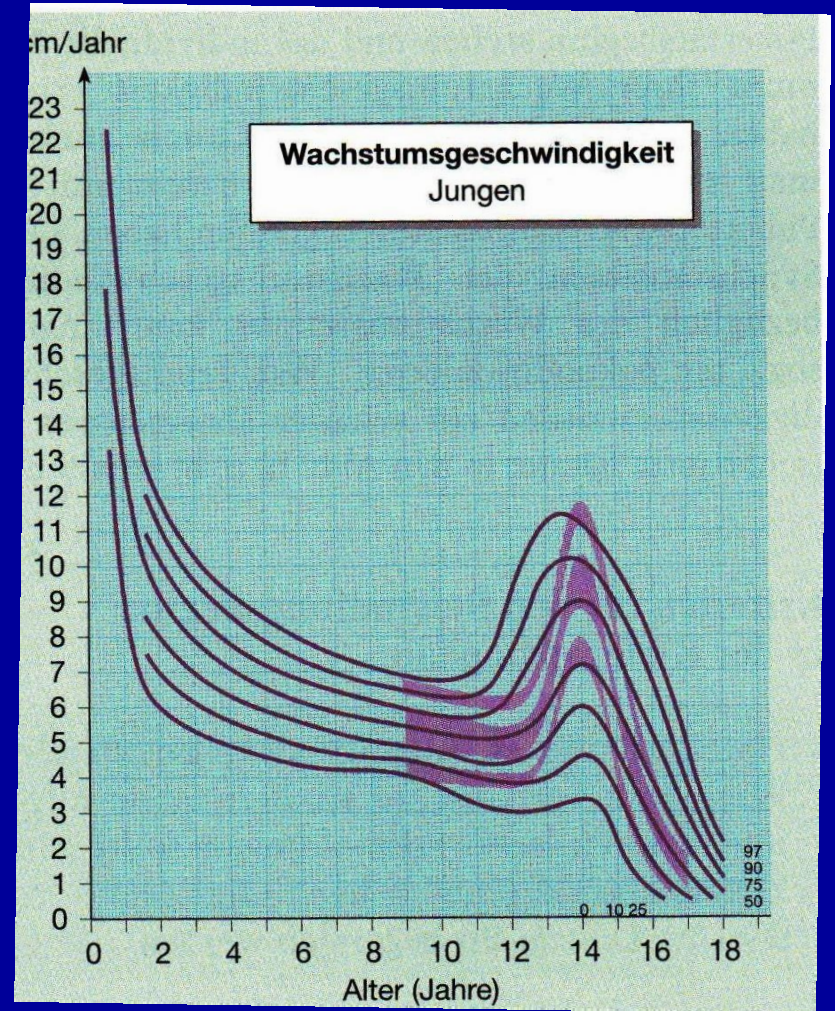
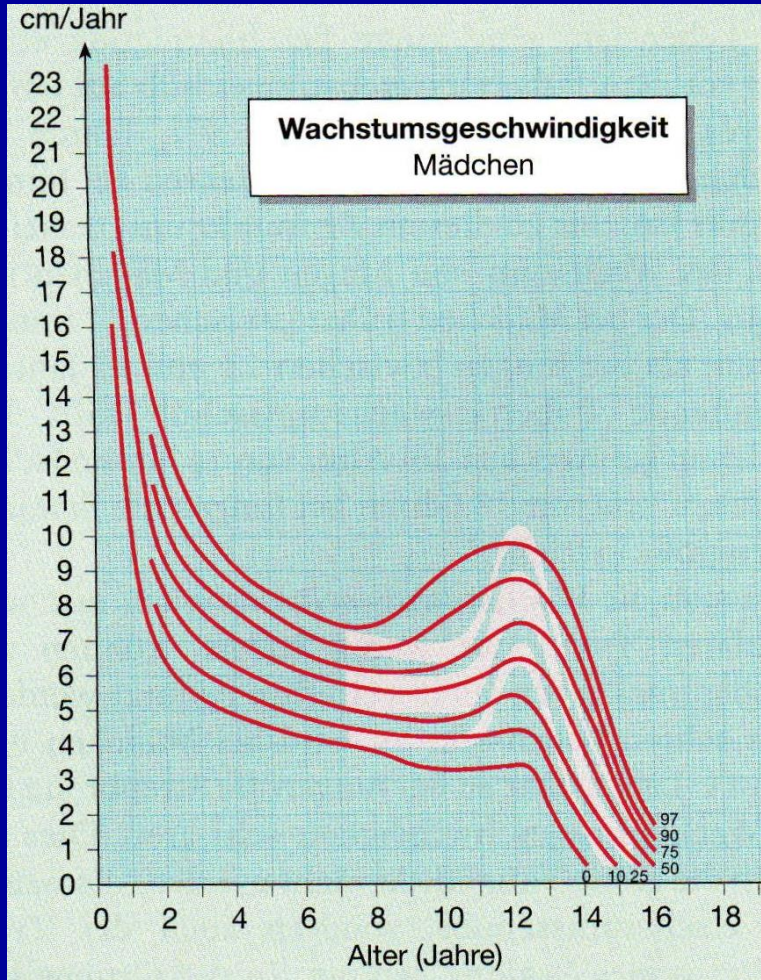




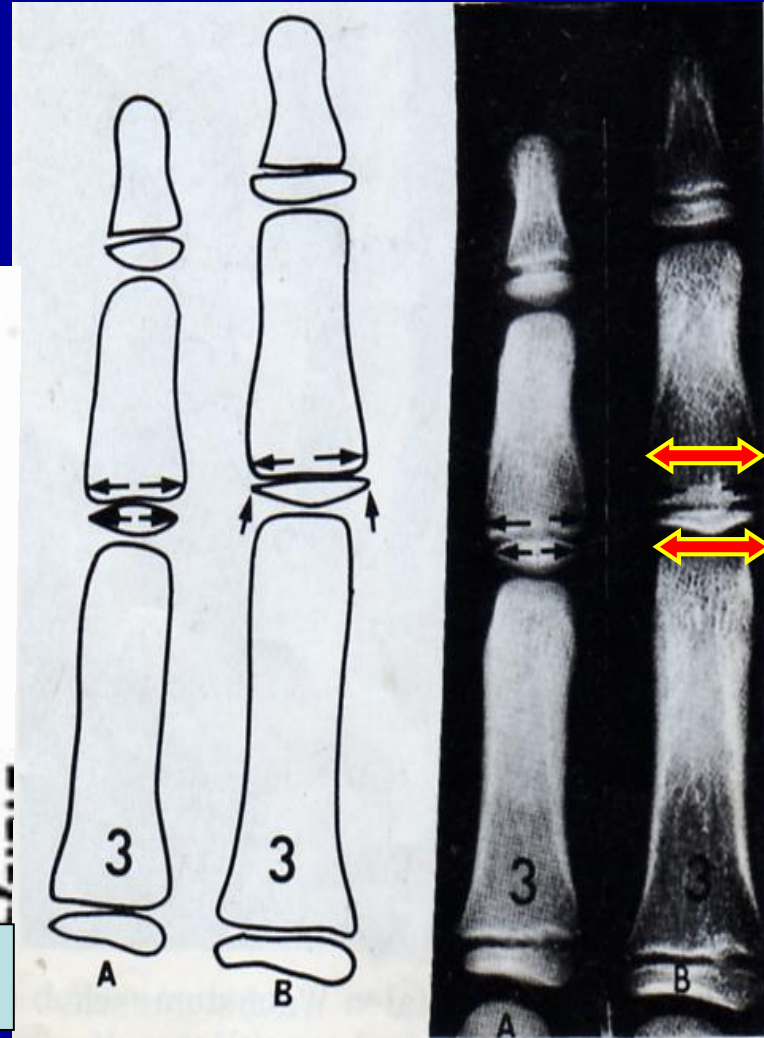
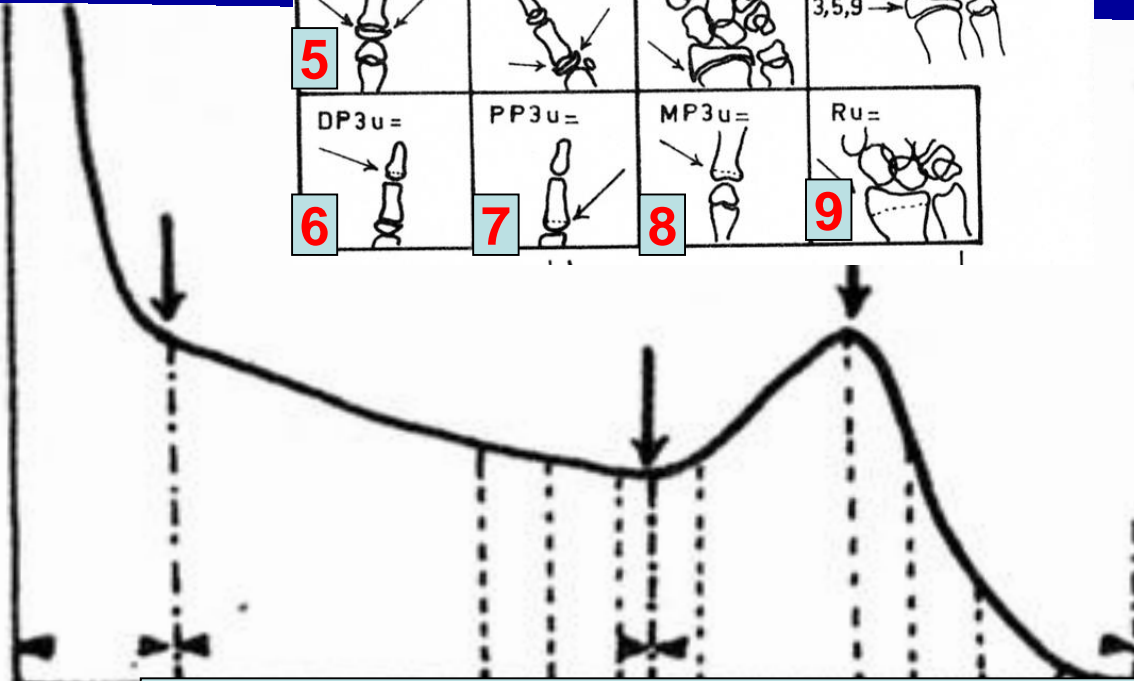
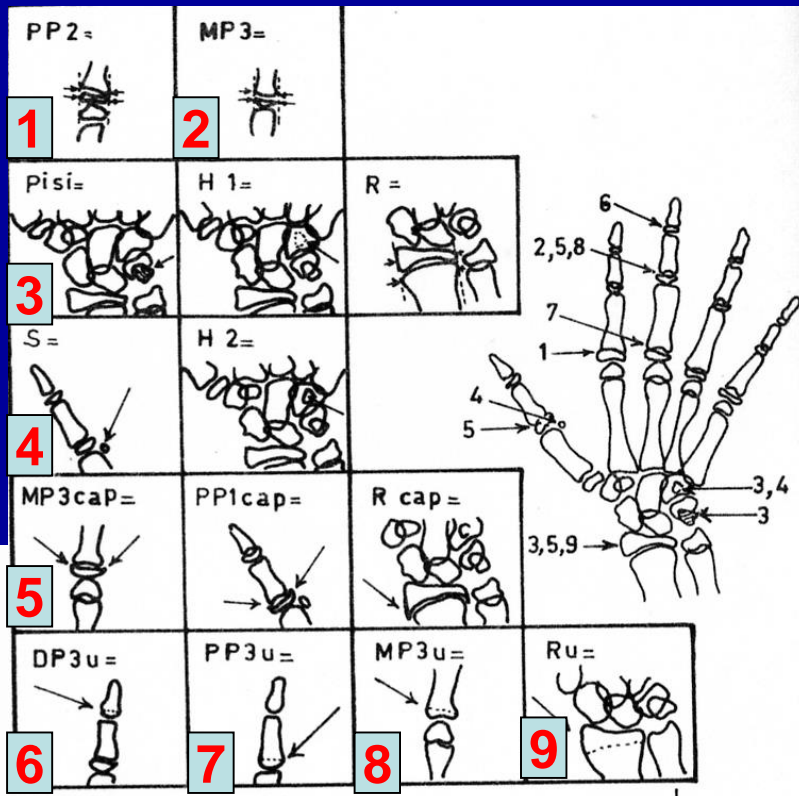


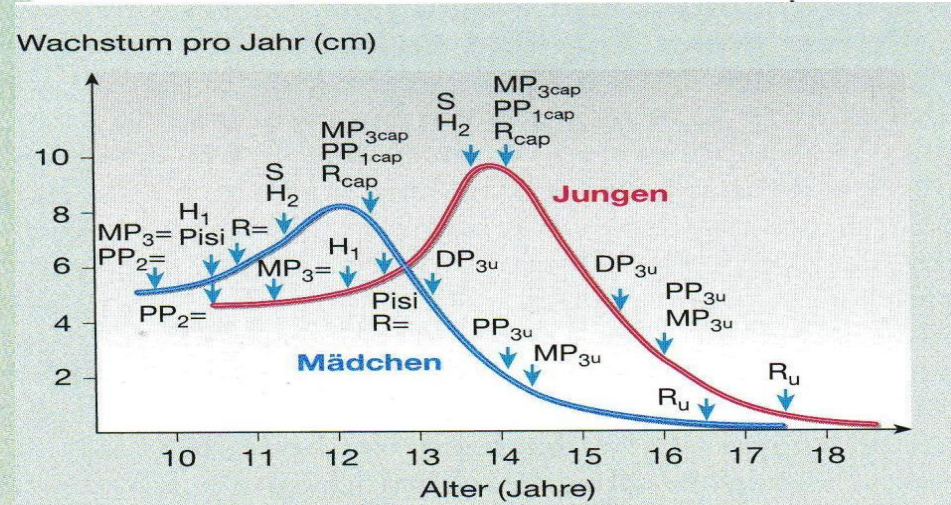
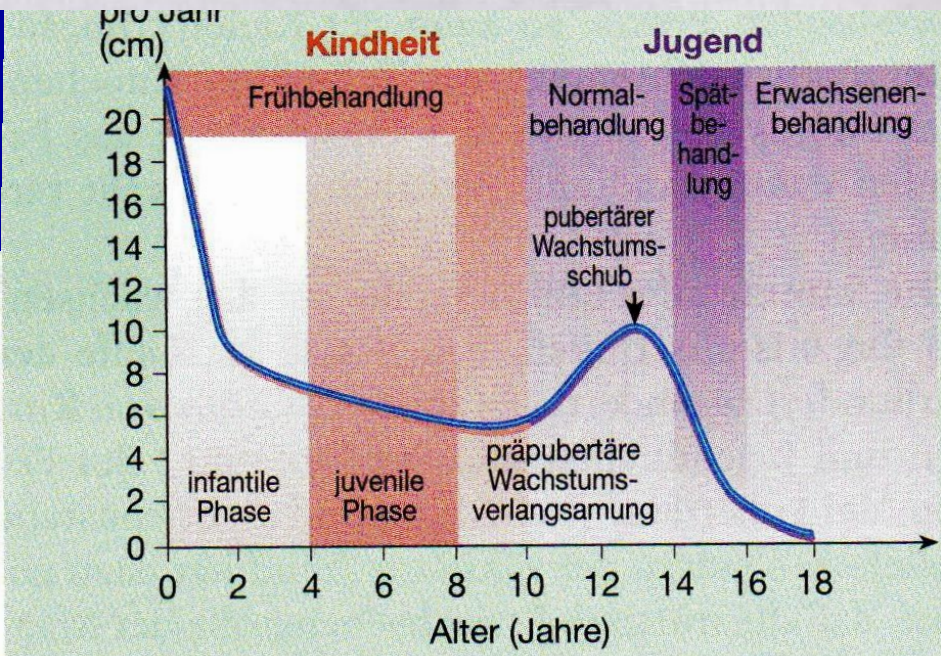
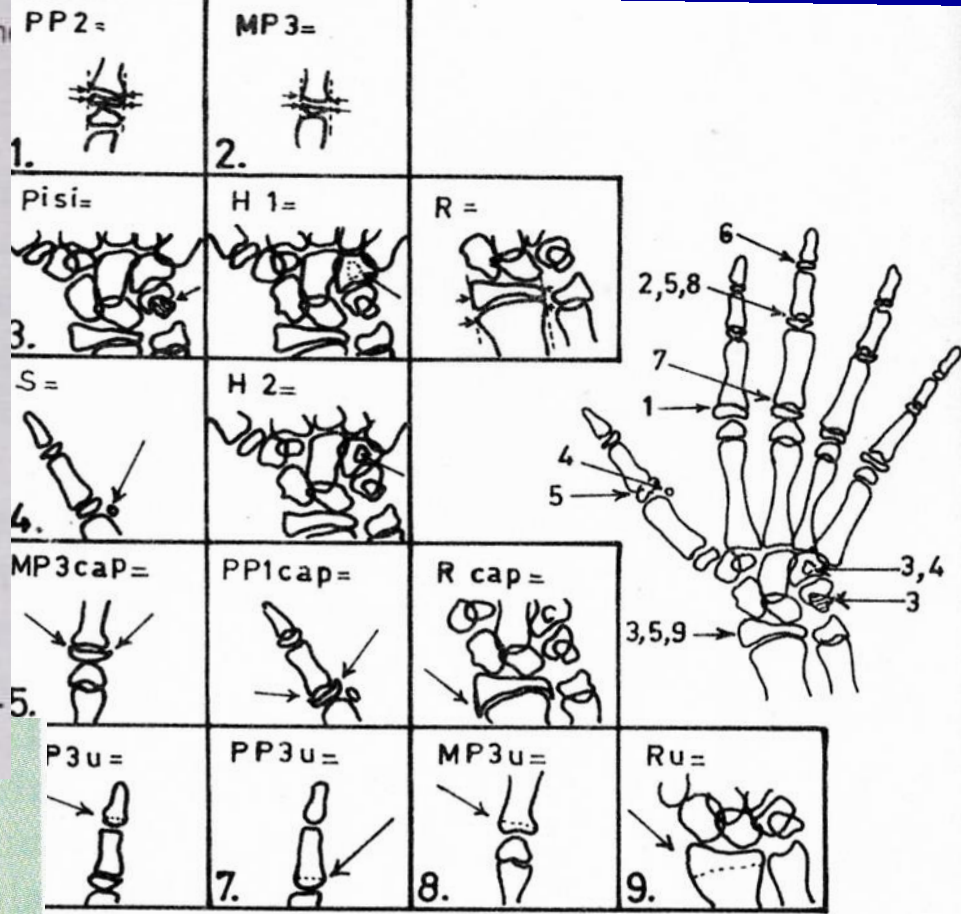
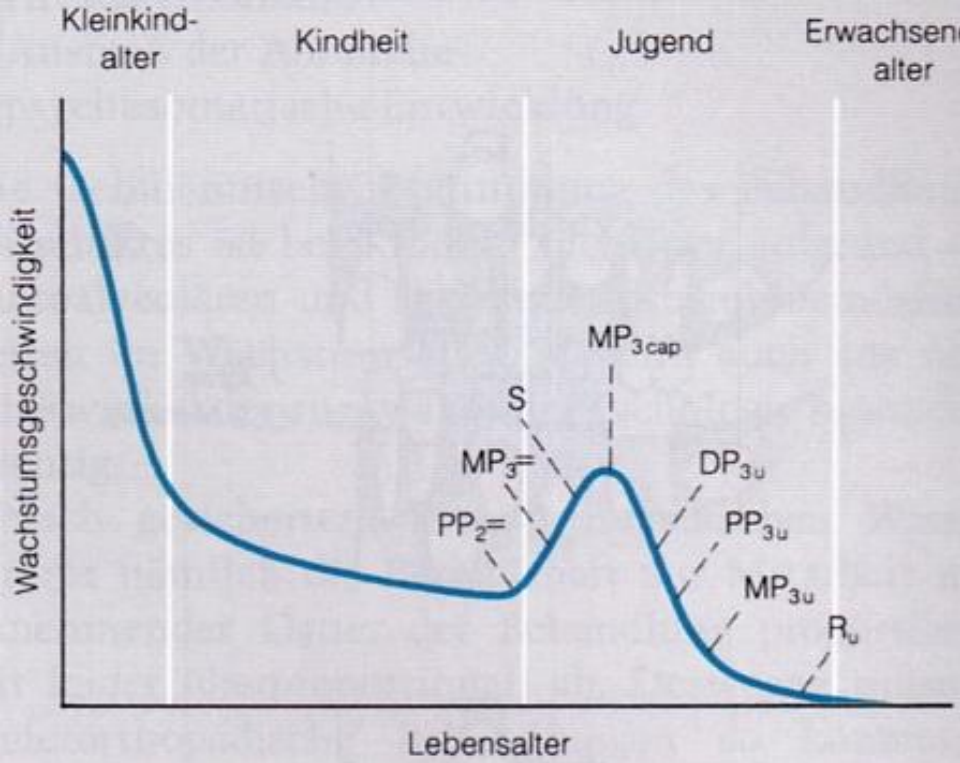
El-bilek filminde büyüme ve gelişimin analizi ve prognozu için yararlanılan dokuz gelişim devresi. I- Büyüme ritmi ve bu dokuz gelişim devresinin Byörk'ün büyüme eğrisi üzerindeki yerleri.



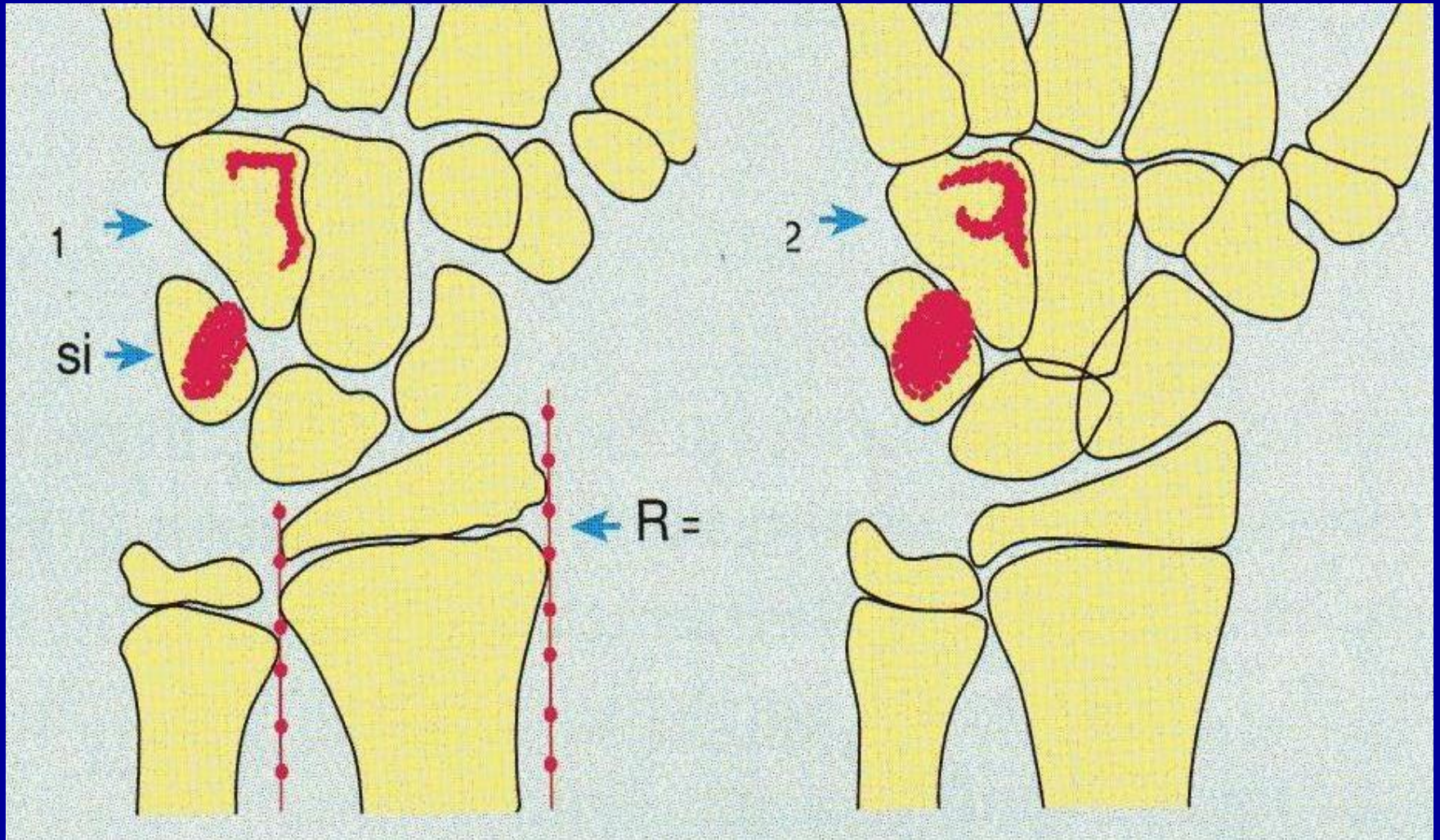


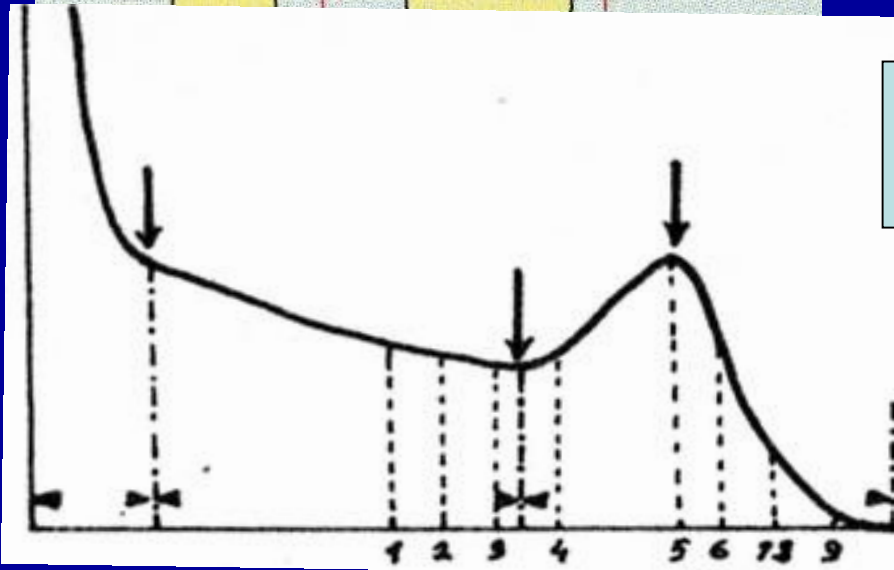
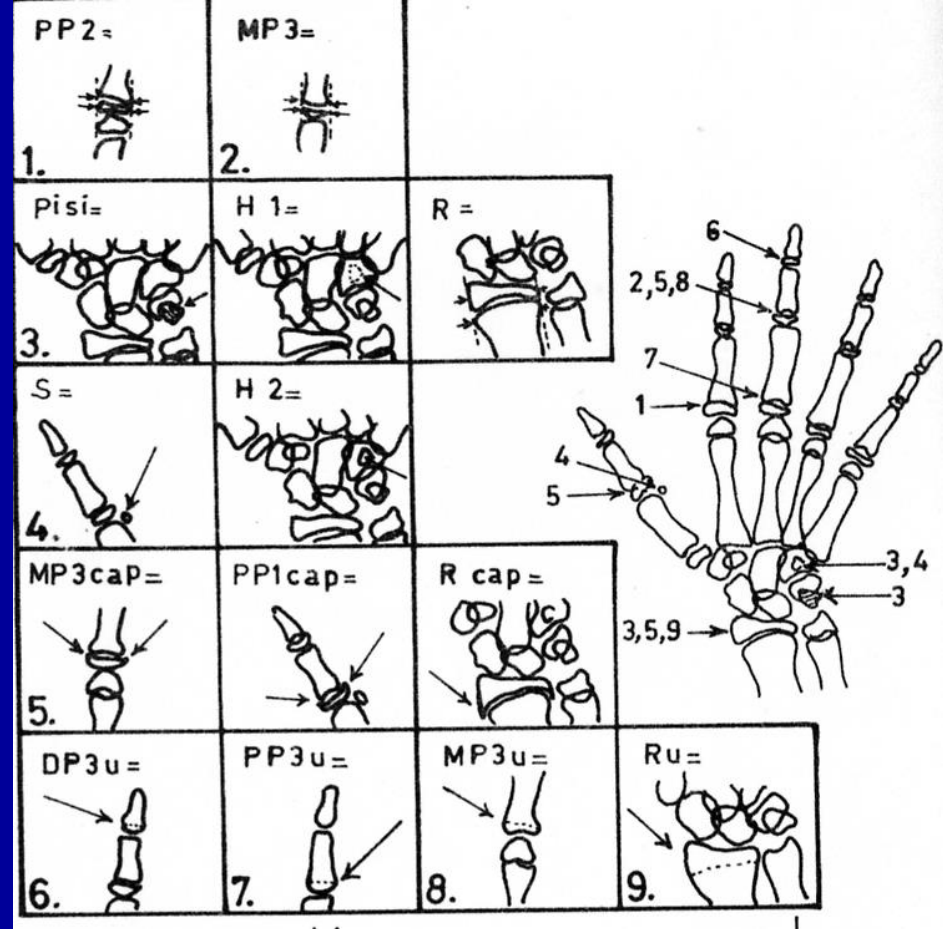
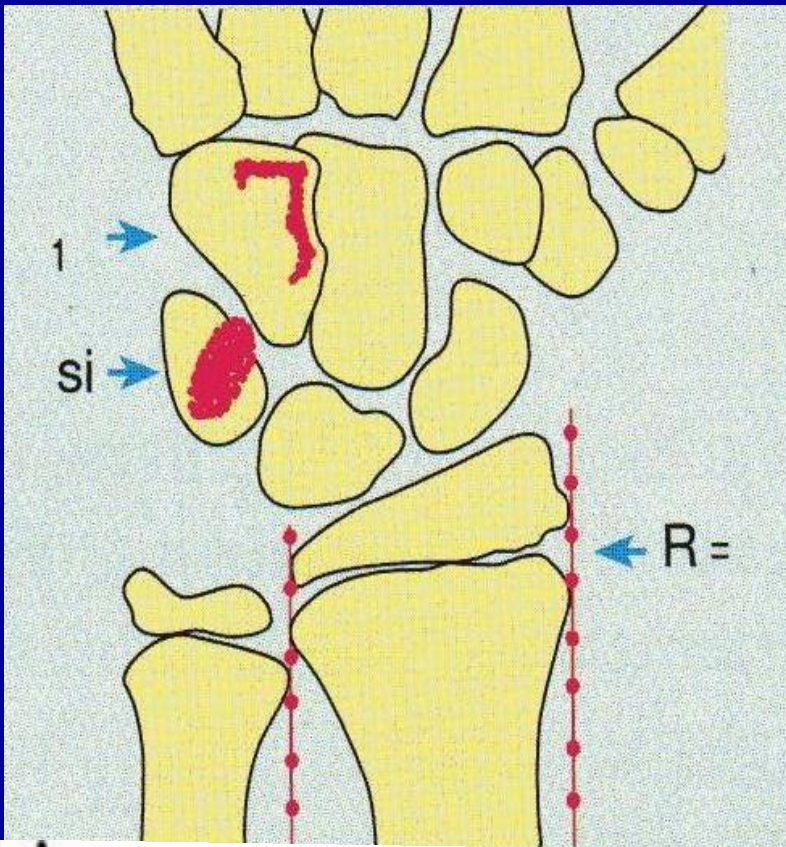
MP₃=





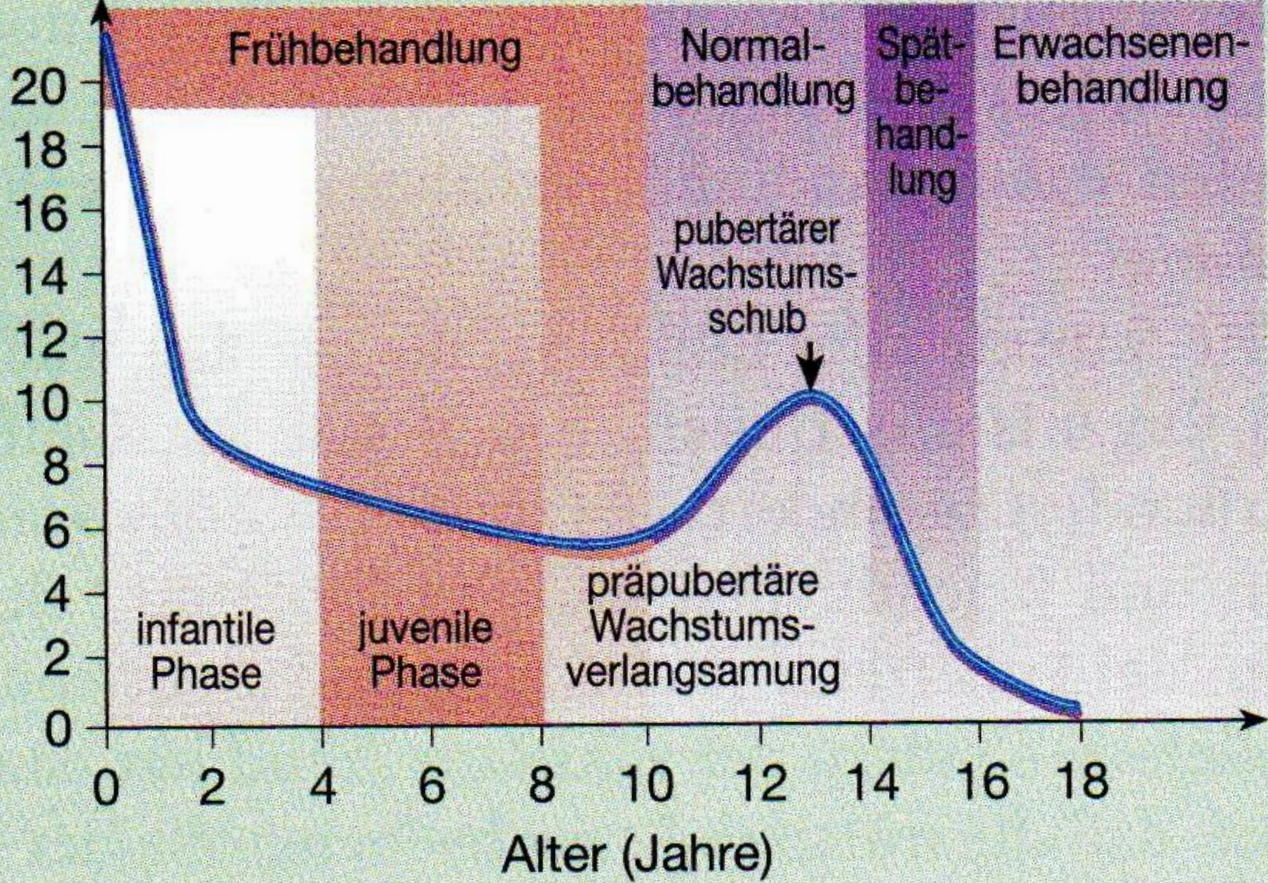
PİSİ, H₁ ve R=

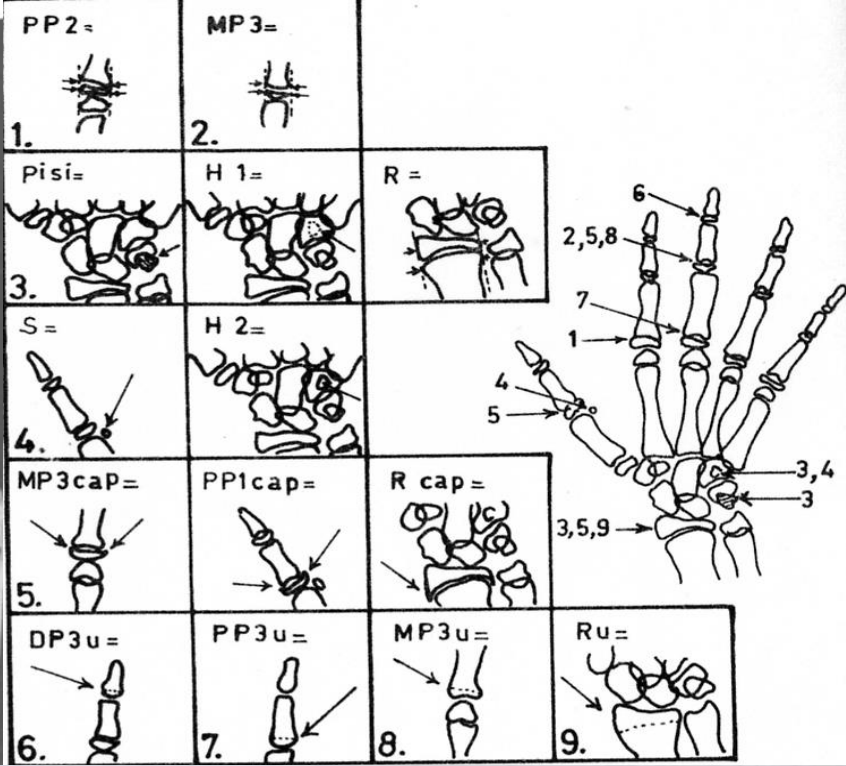
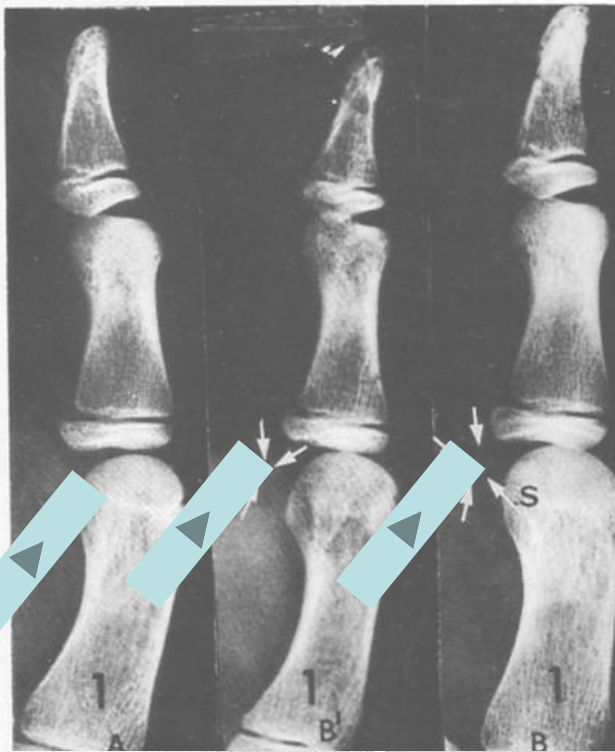
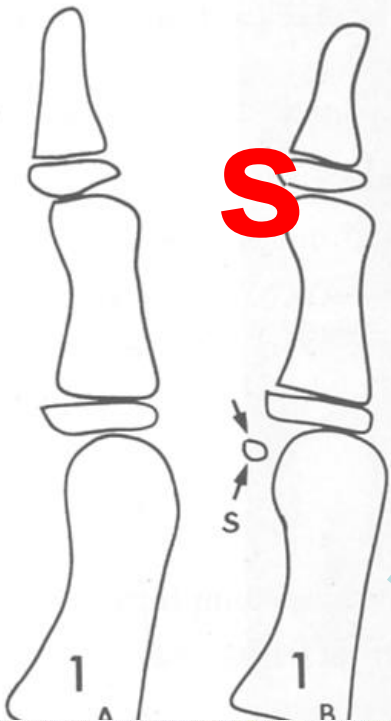




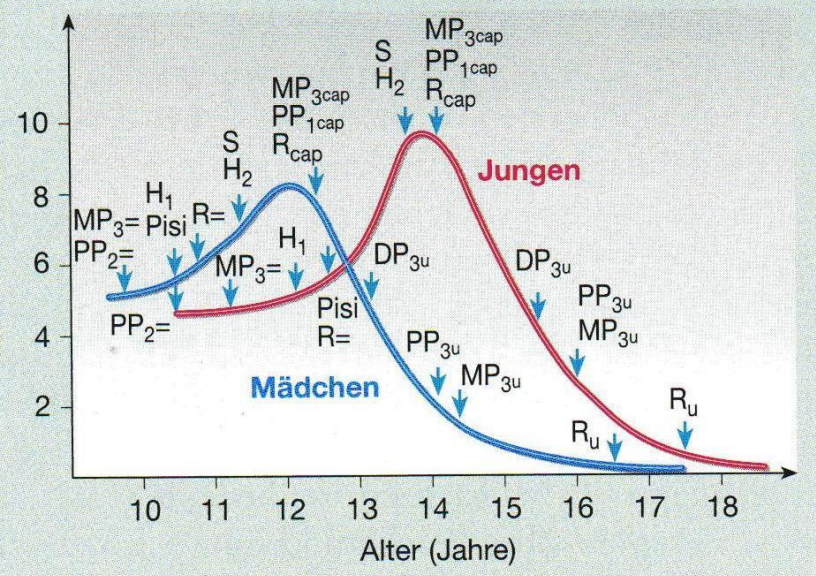
PİSİ, H₁ ve R=

Längenzunahme
pro Jahr
(cm)

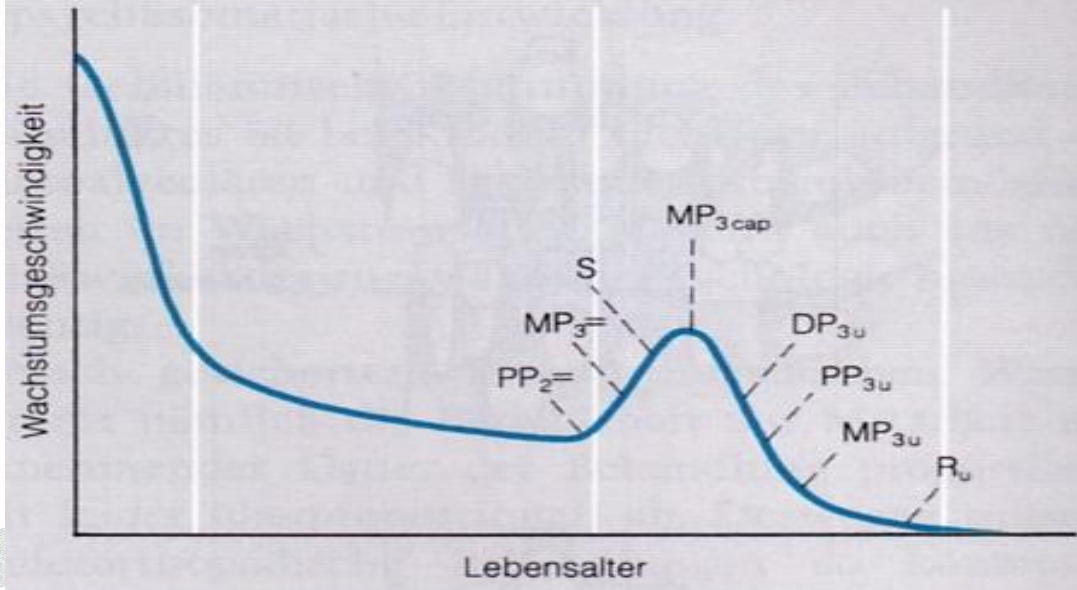




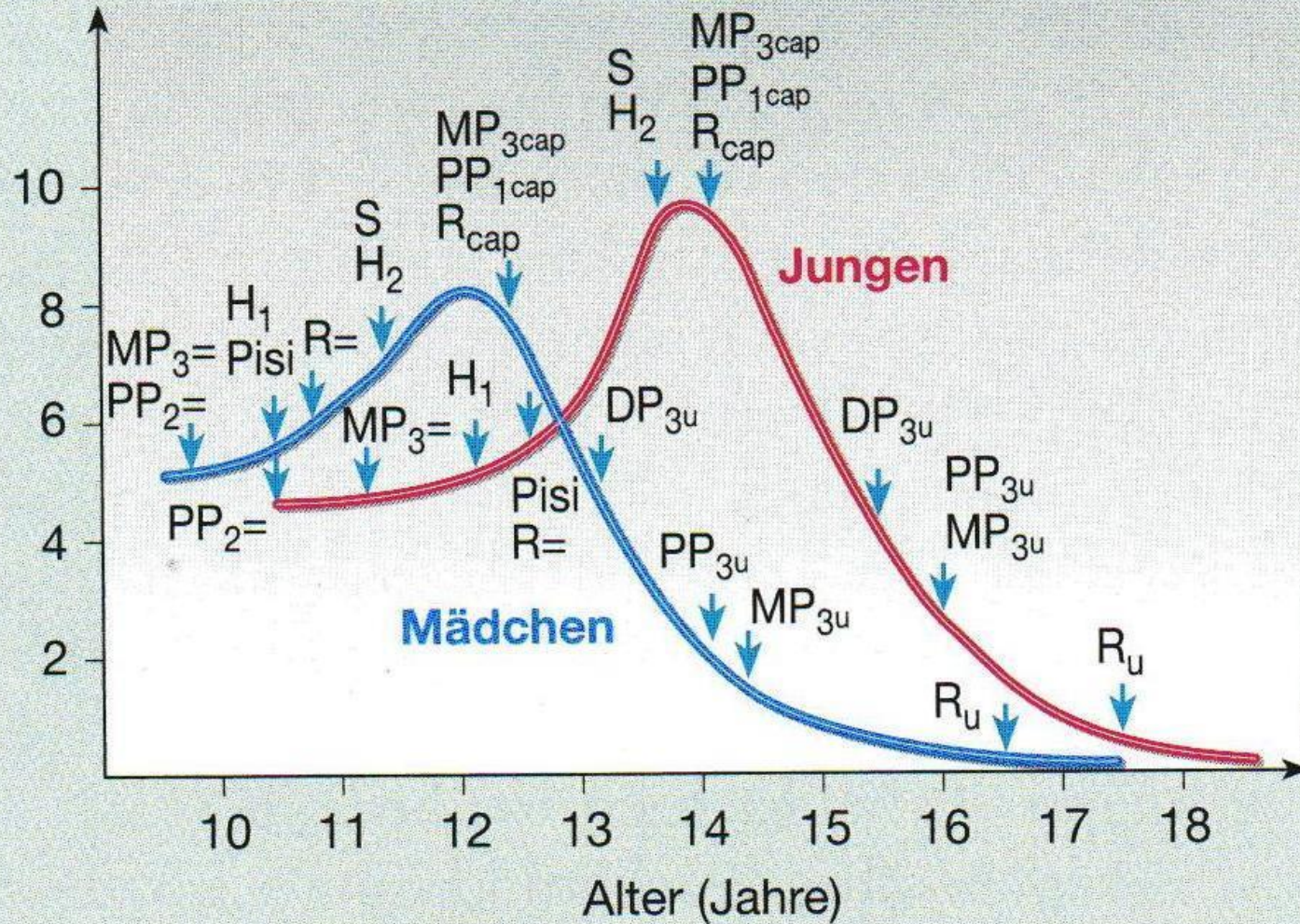
Wachstum pro Jahr (cm)

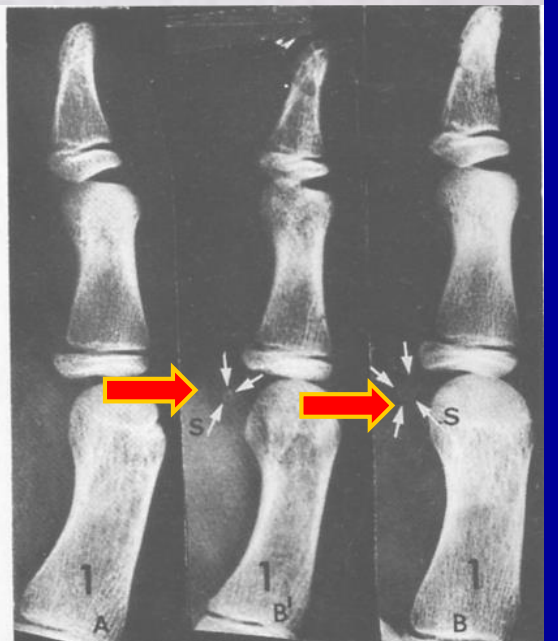
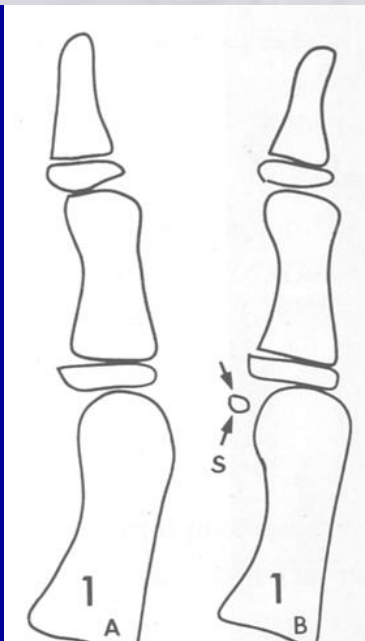
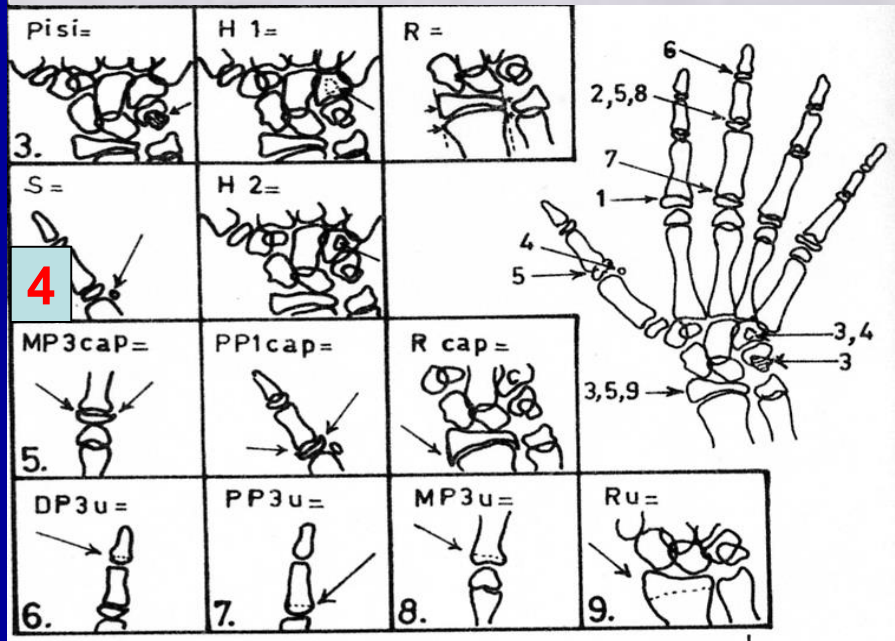
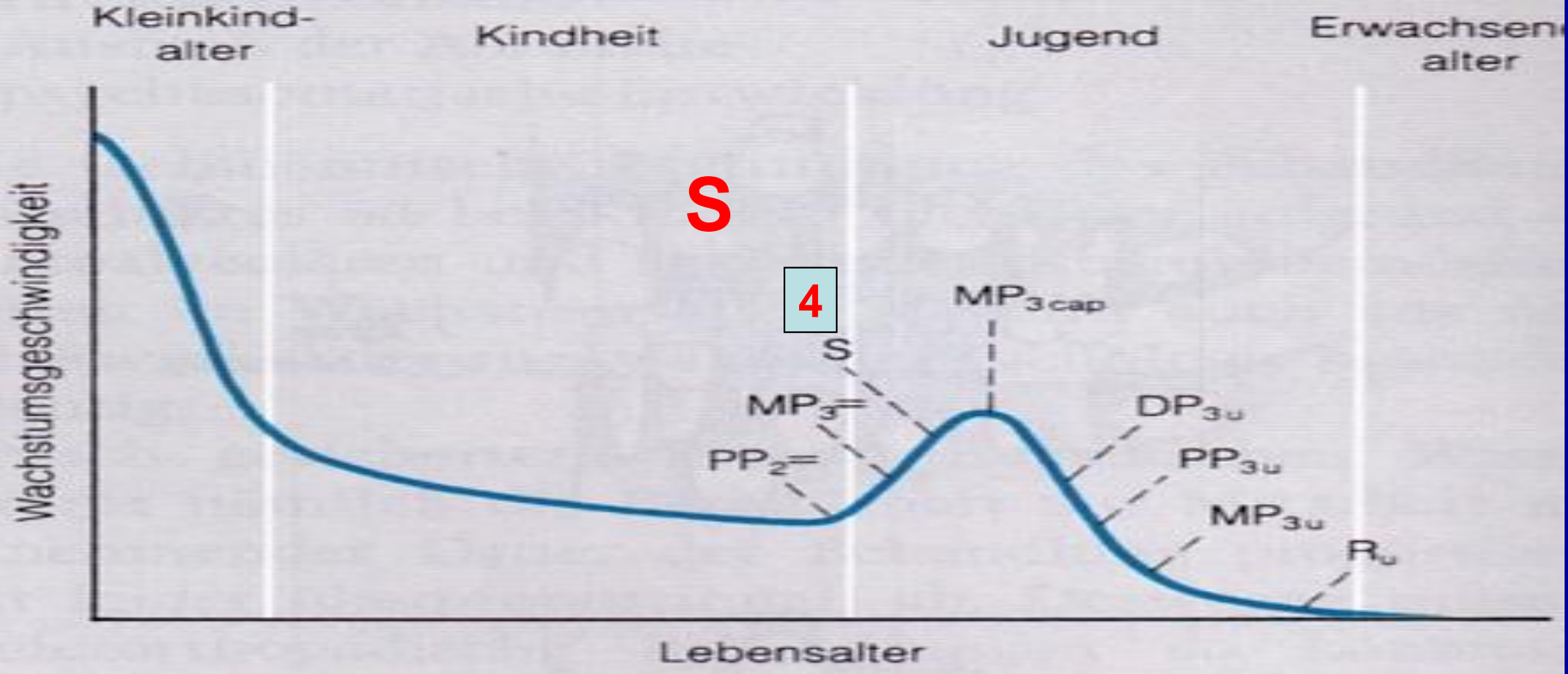


Kleinkindalter Kindheit Jugend Erwachsenenalter

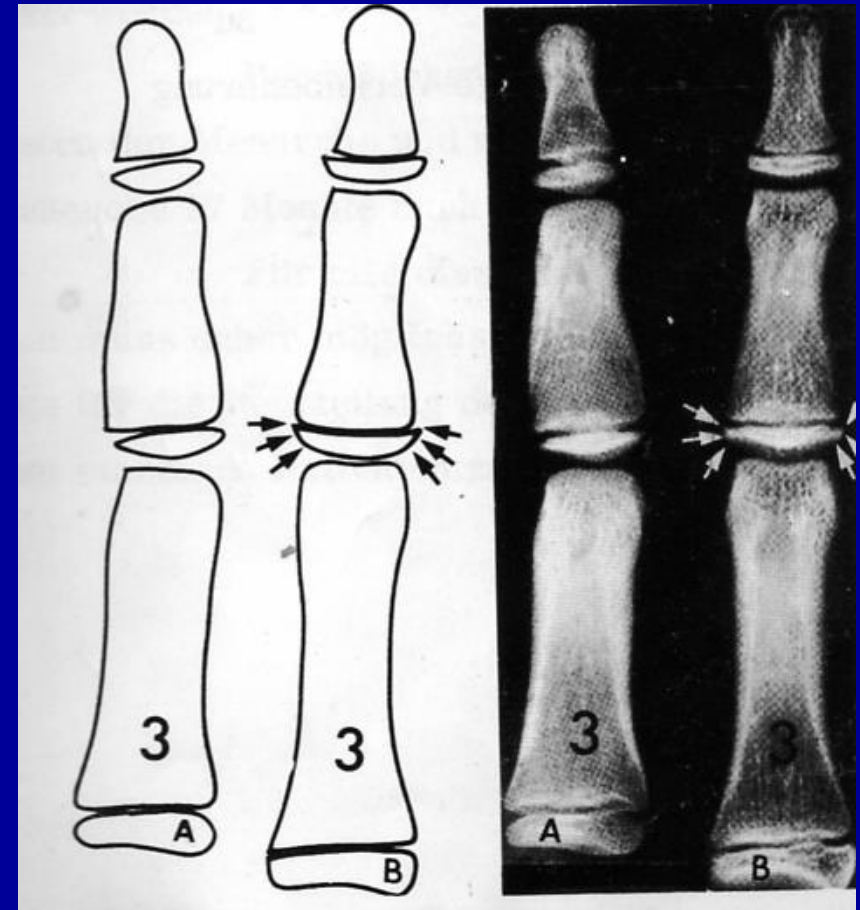
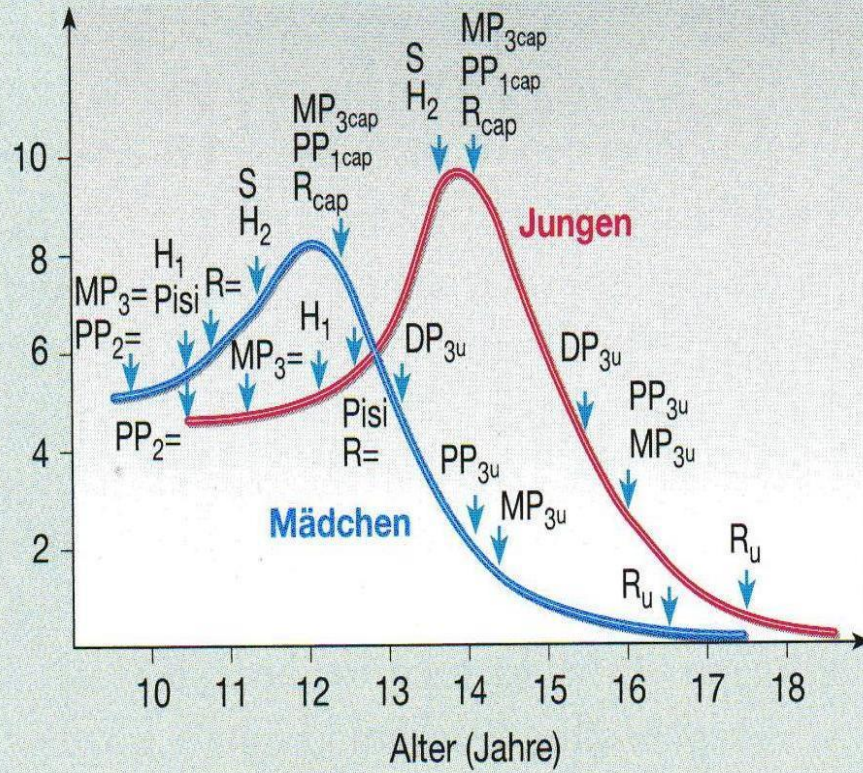


Wachstum pro Jahr (cm)

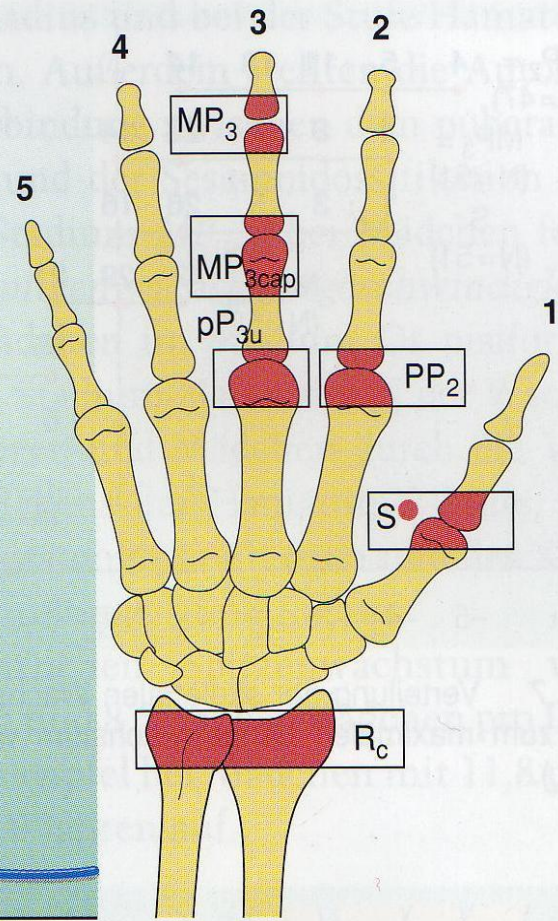
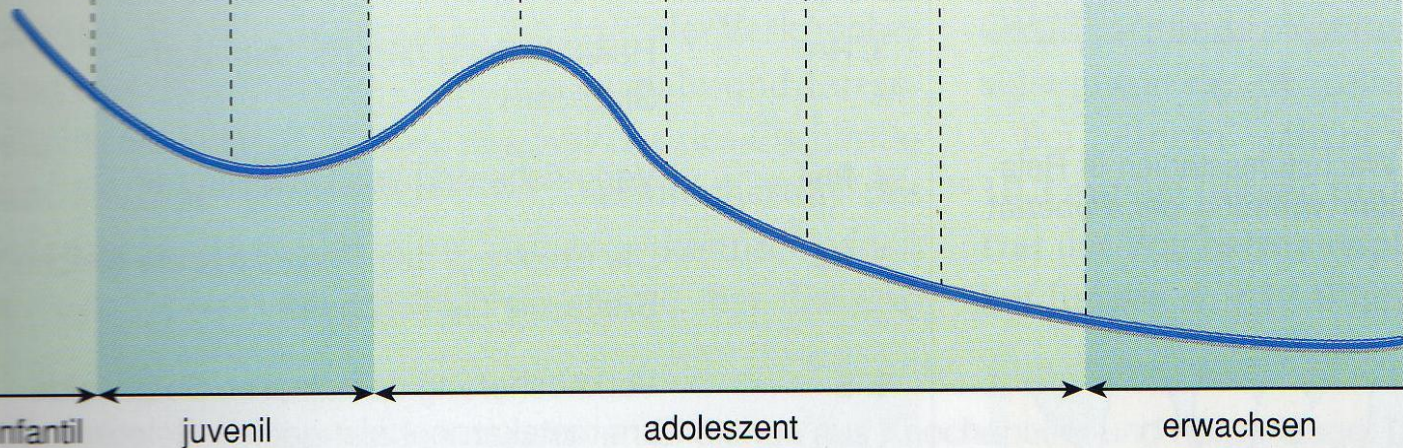
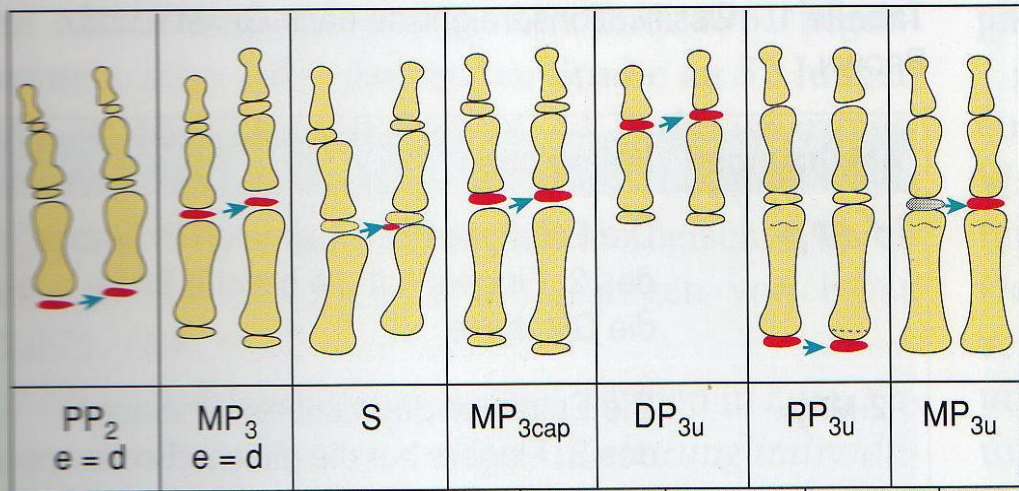




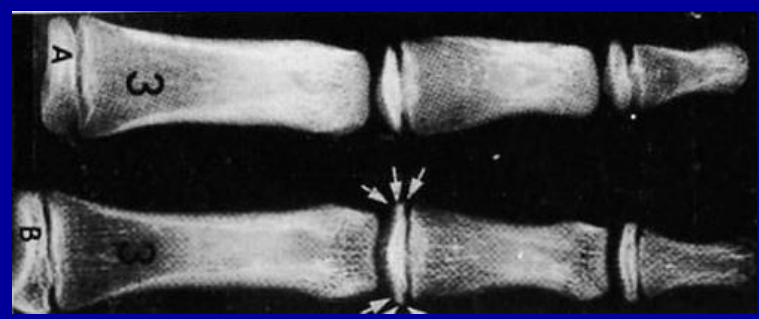
Wachstum pro Jahr (cm)

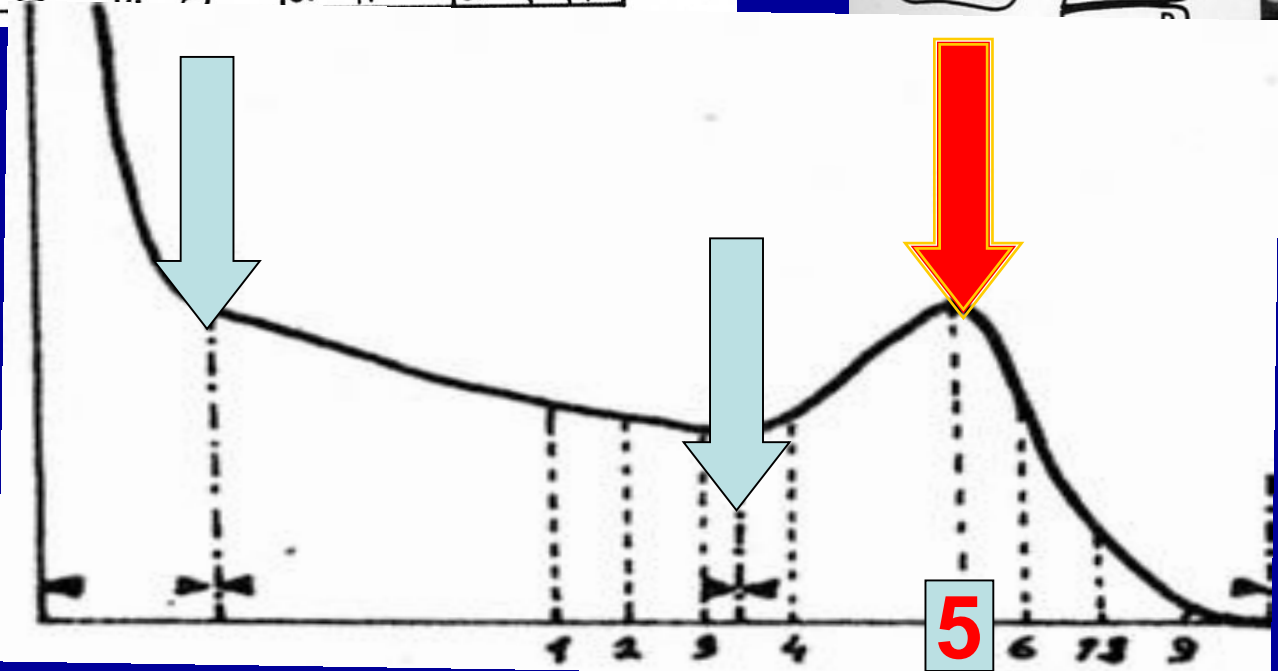
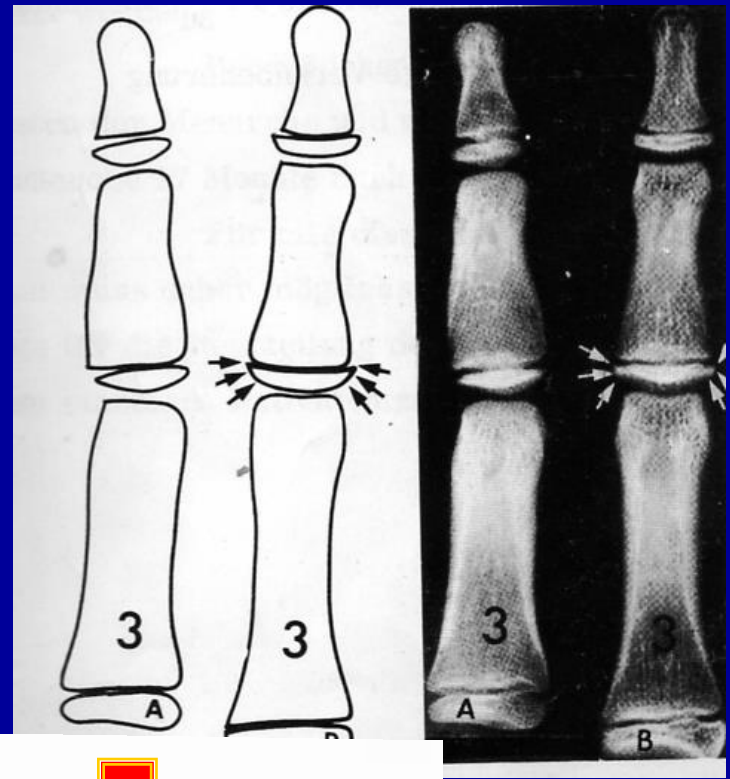
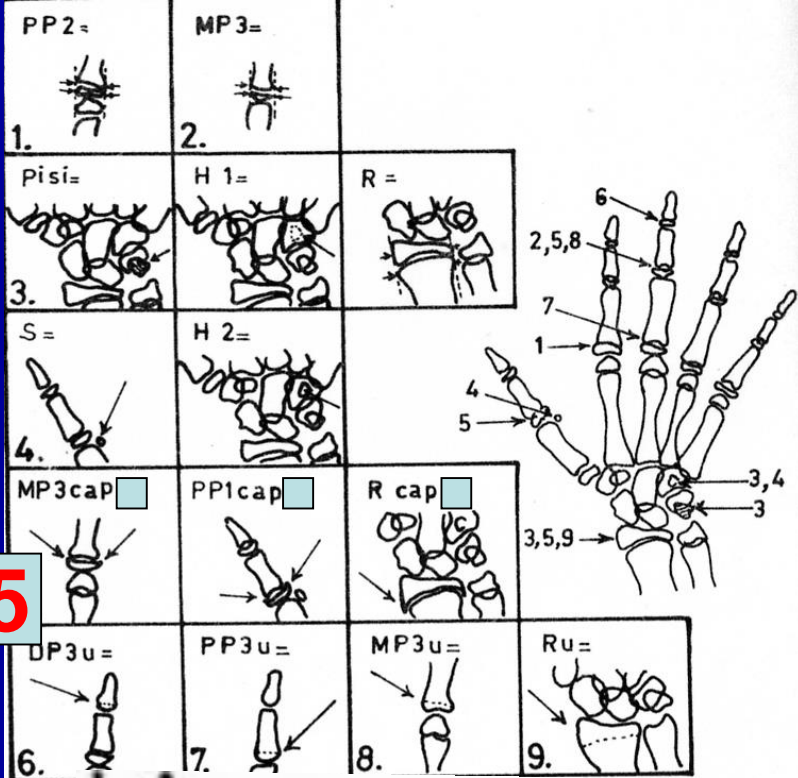


MP_{3cap}



MP_{3cap}



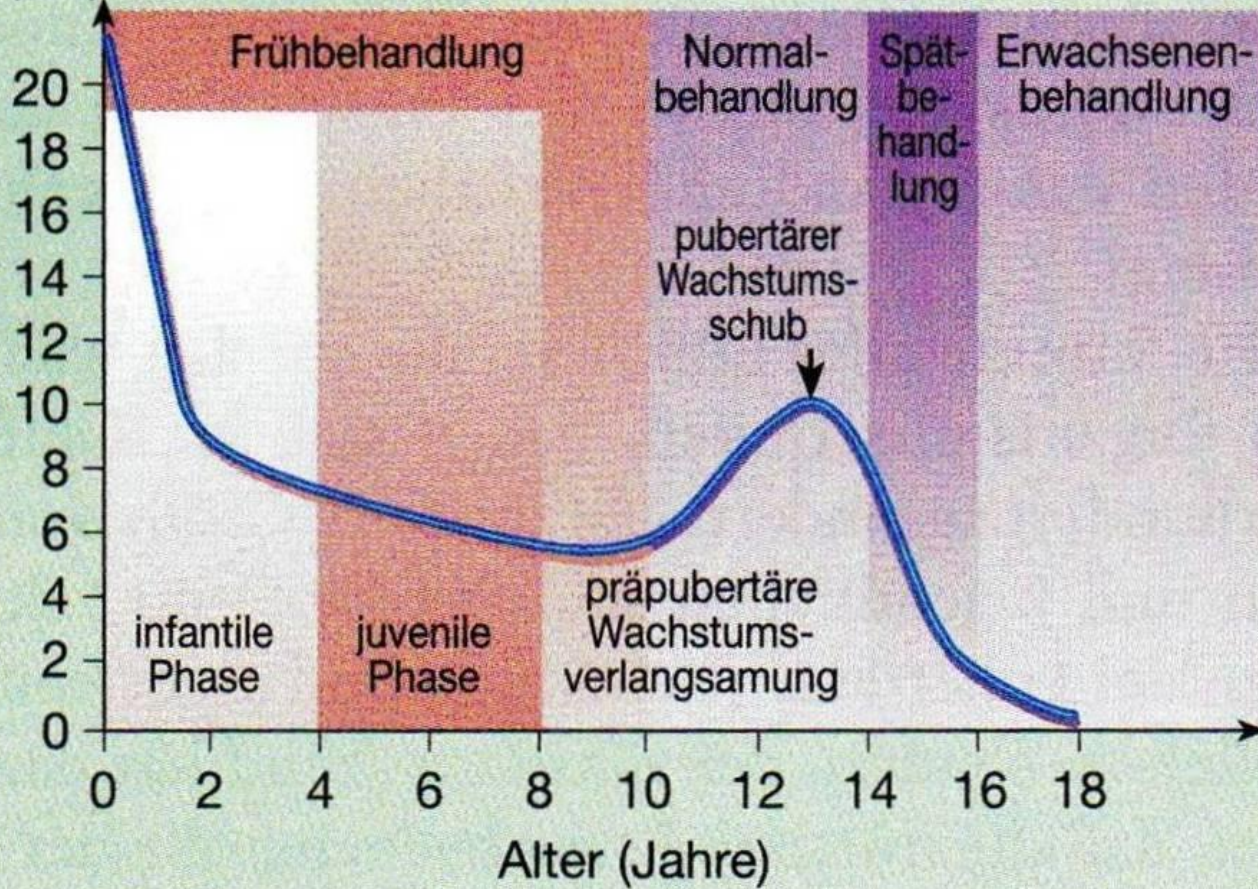


MP₃ cap

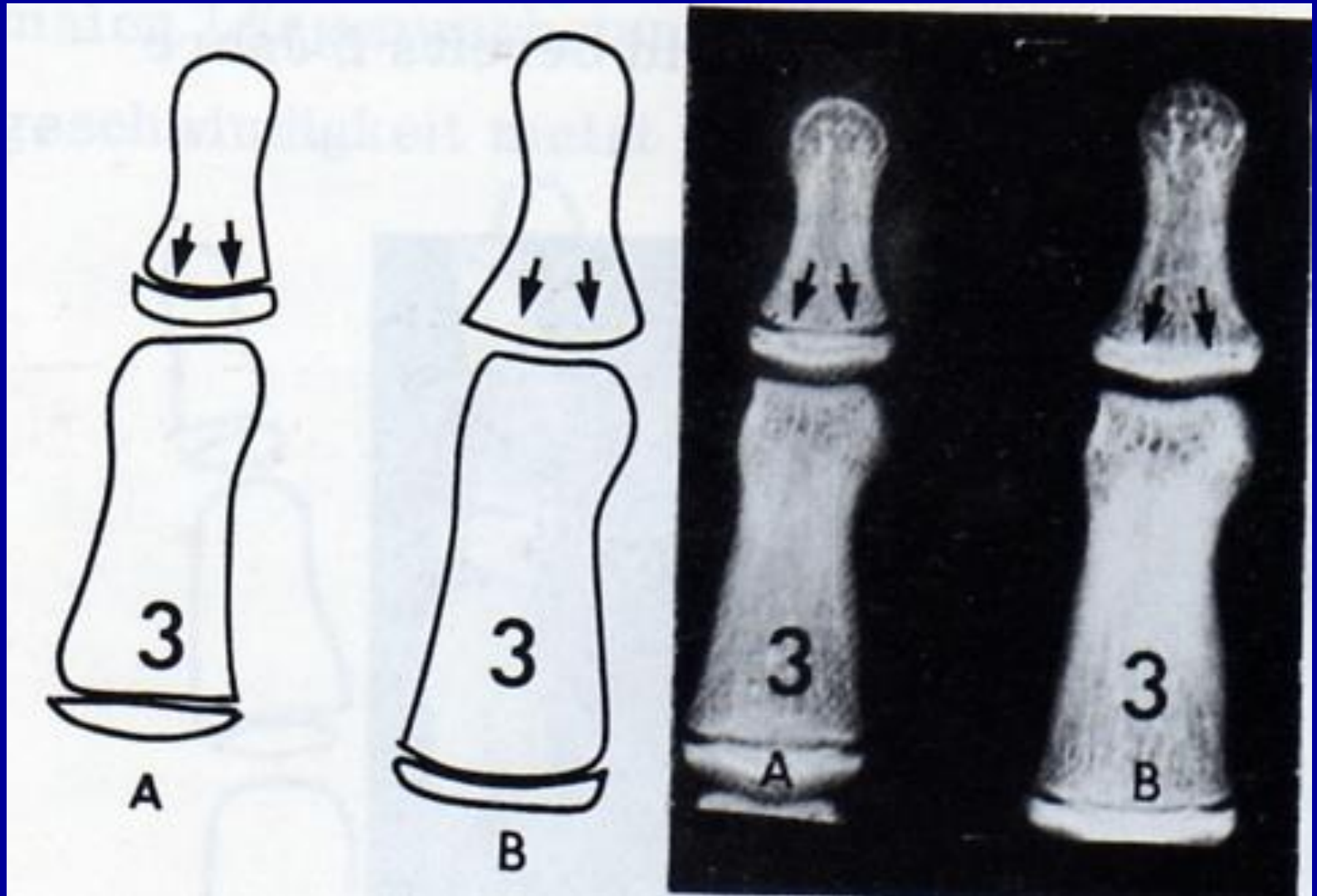
Längenzunahme
pro Jahr
(cm)

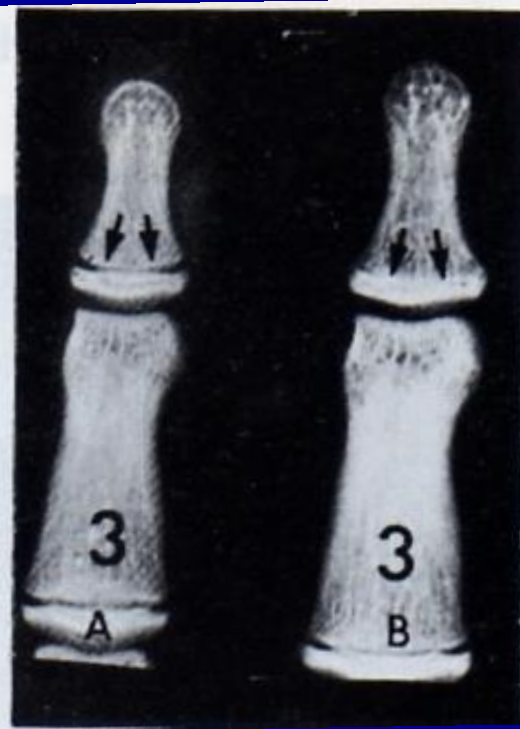
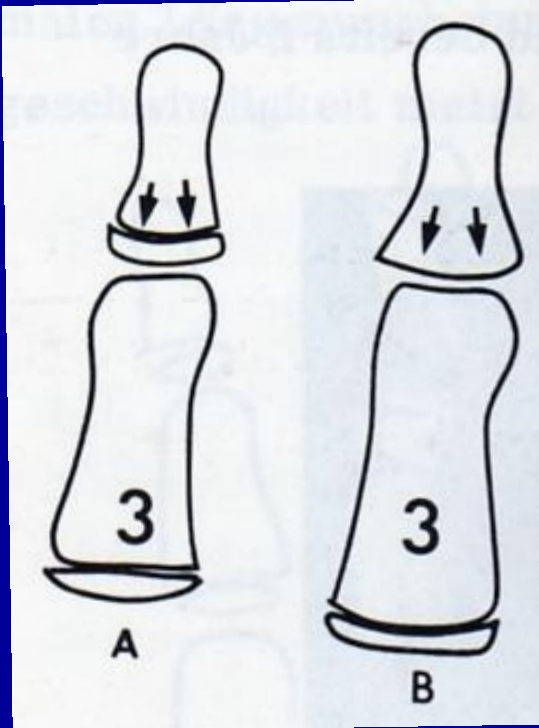
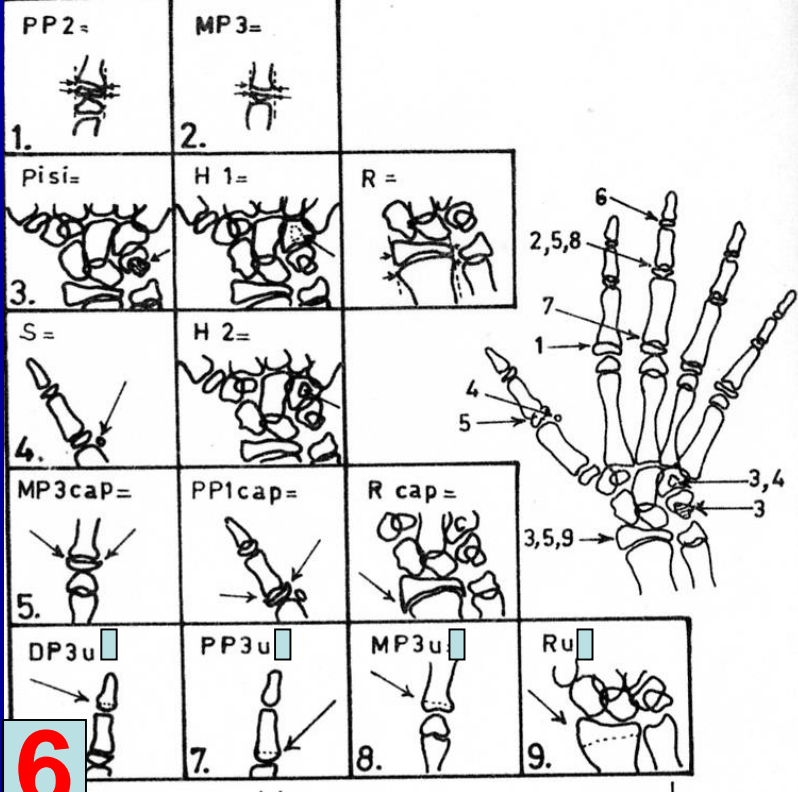
Kindheit

Jugend

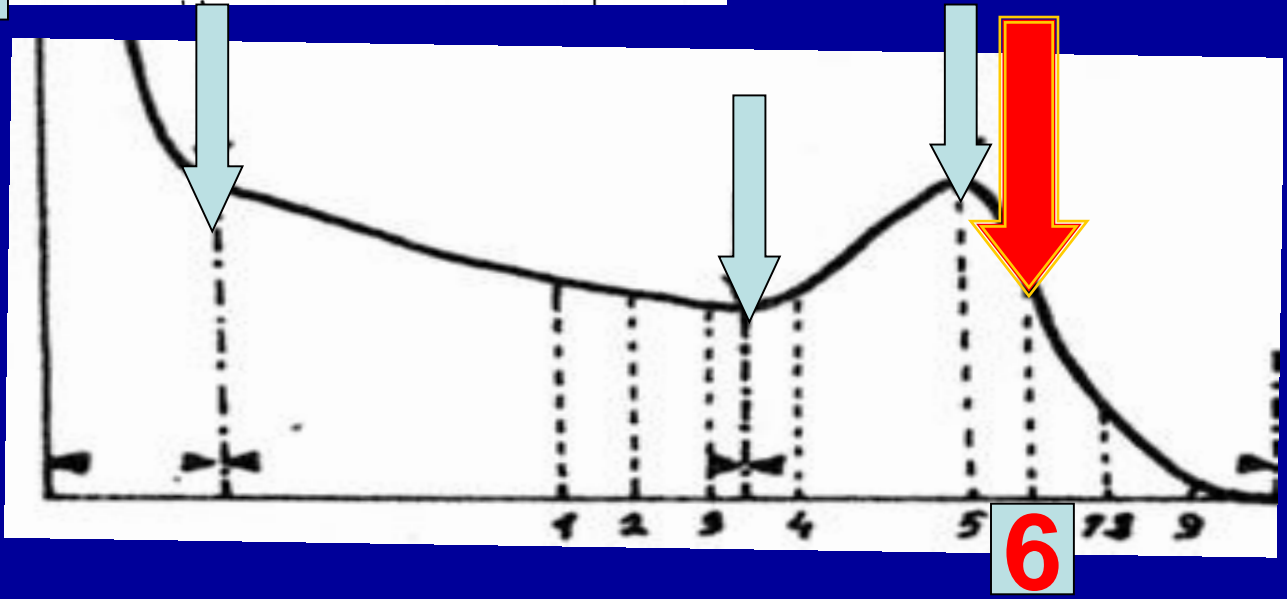


DP_{3U}



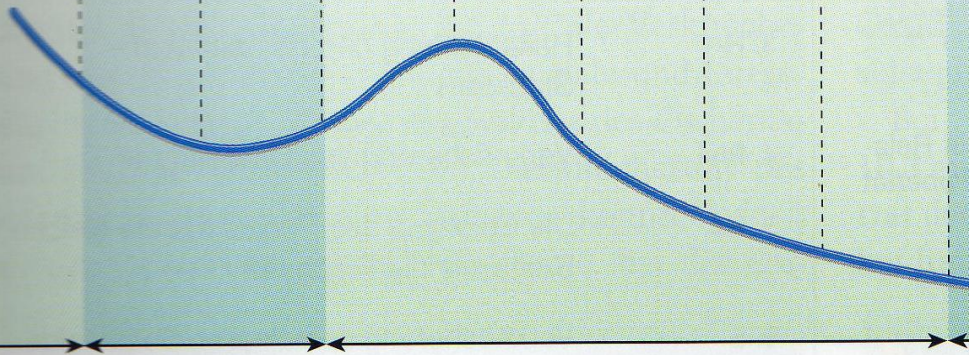
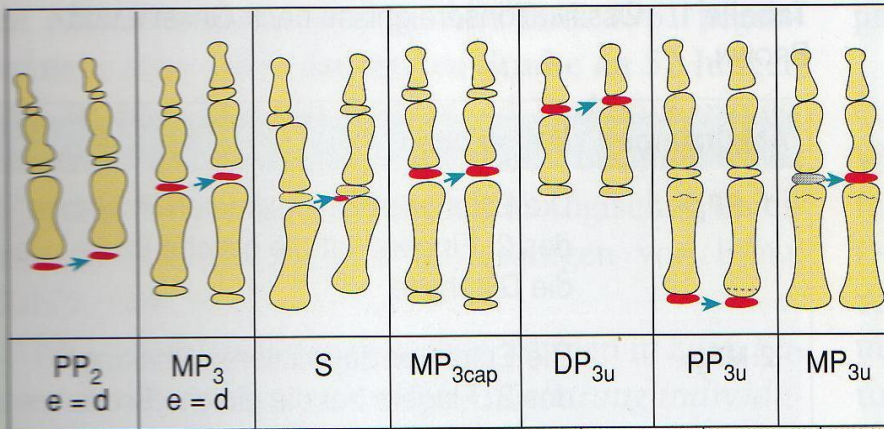


6



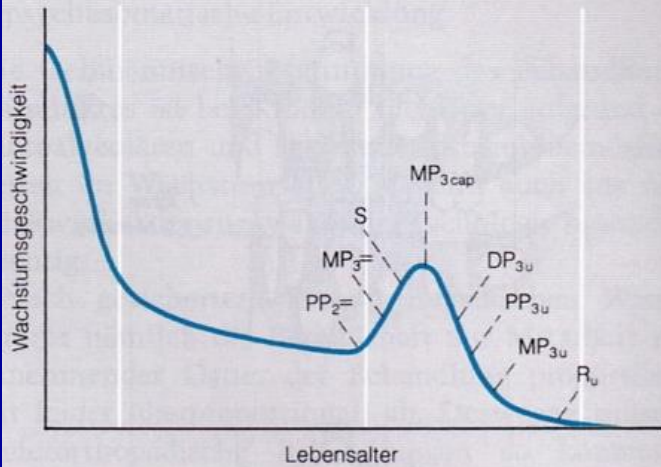
DP_{3u}

6

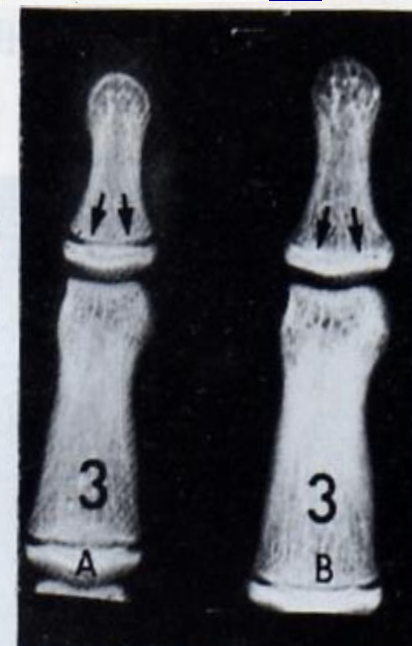
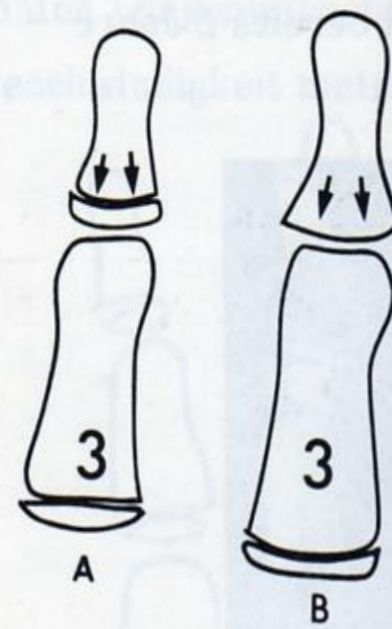
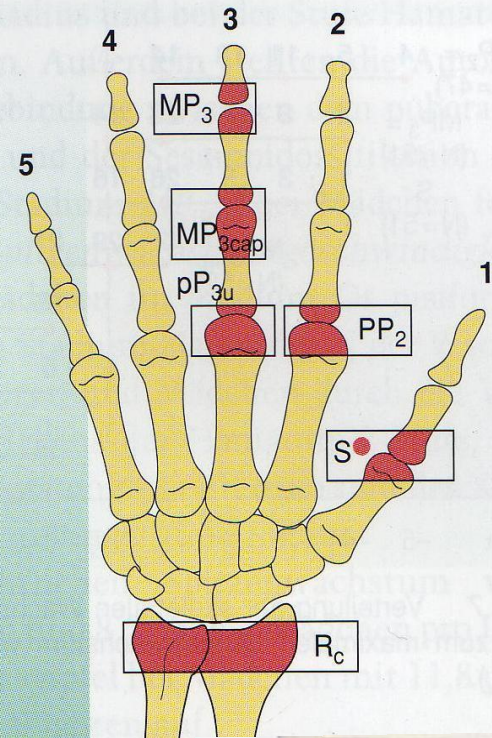


infantil iuvenil adolescent

Kleinkind-
alter Kindheit Jugend Erwachsenen-
alter

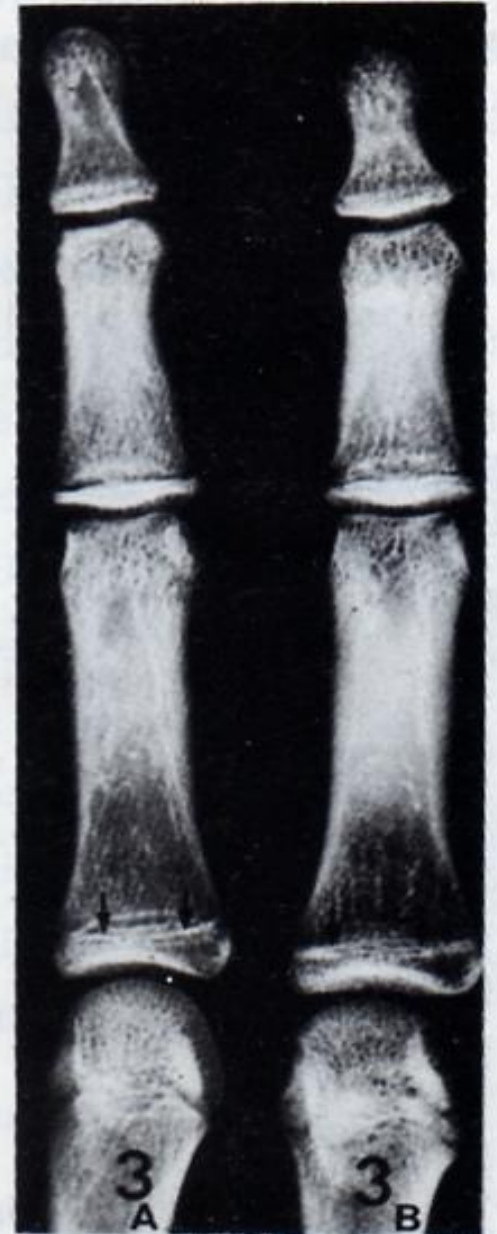
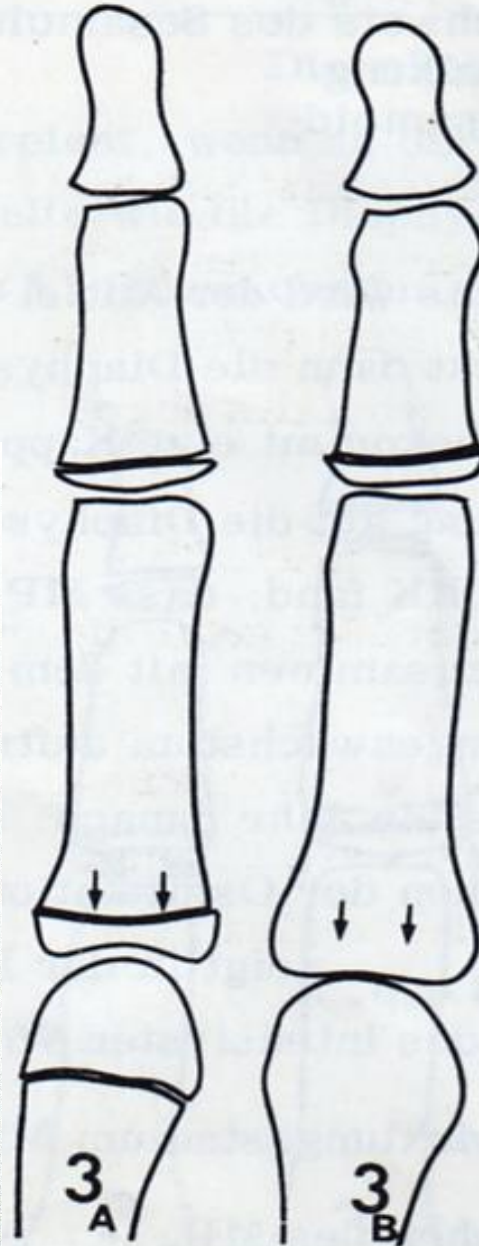
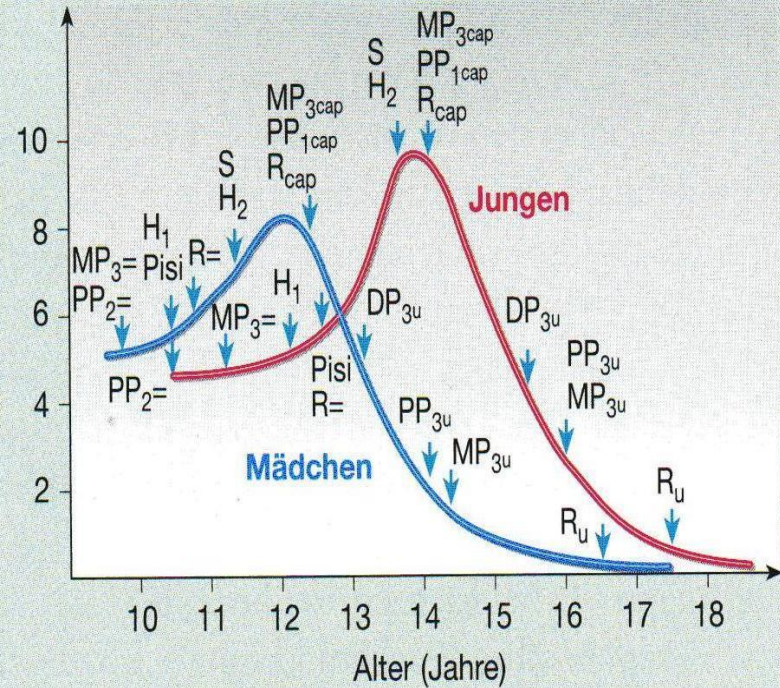


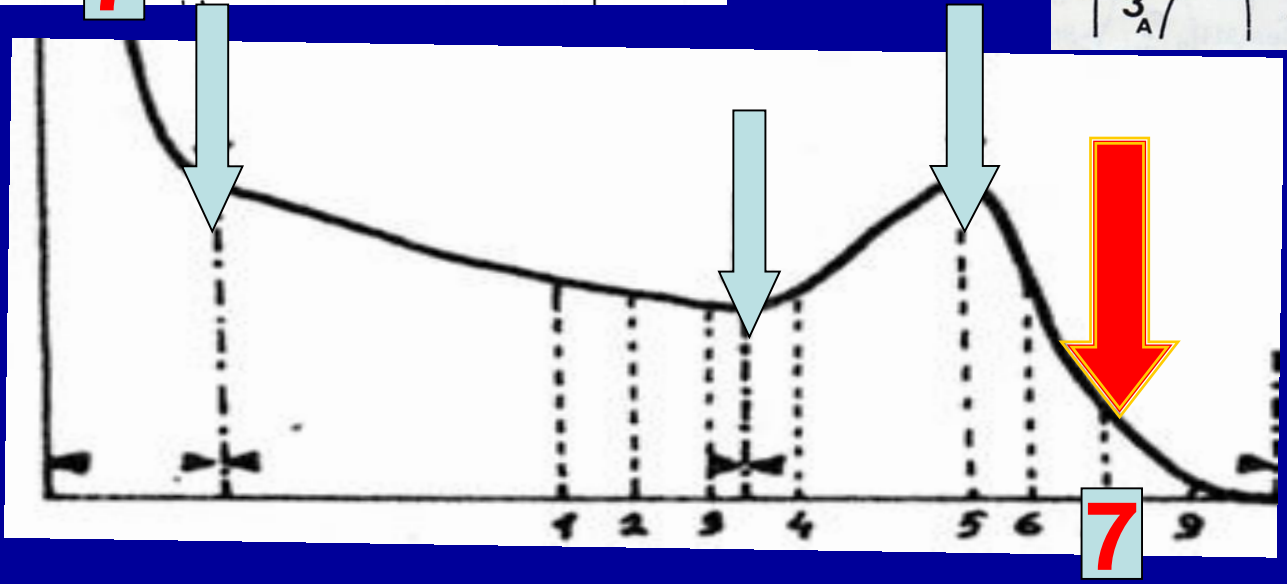
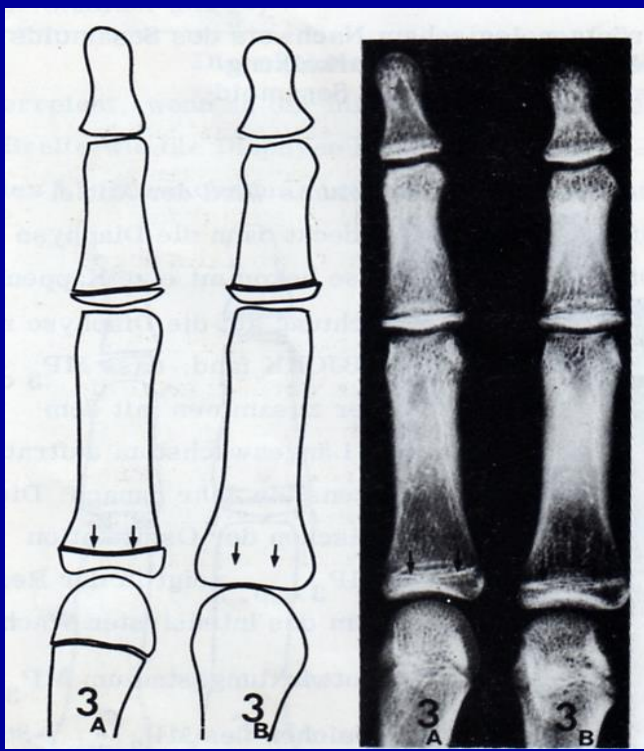
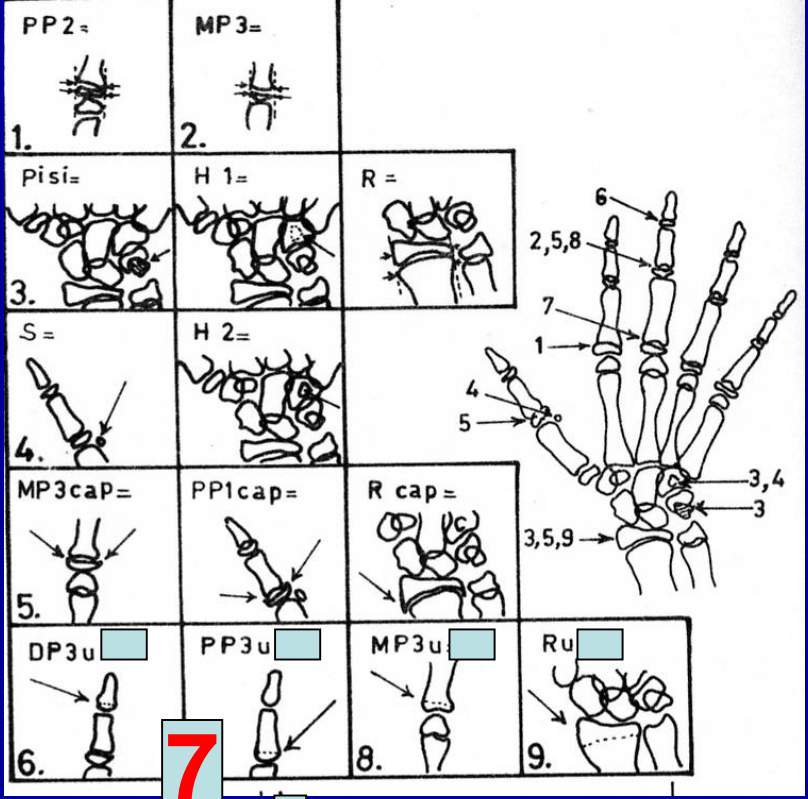
DP_{3u}



PP_{3U}

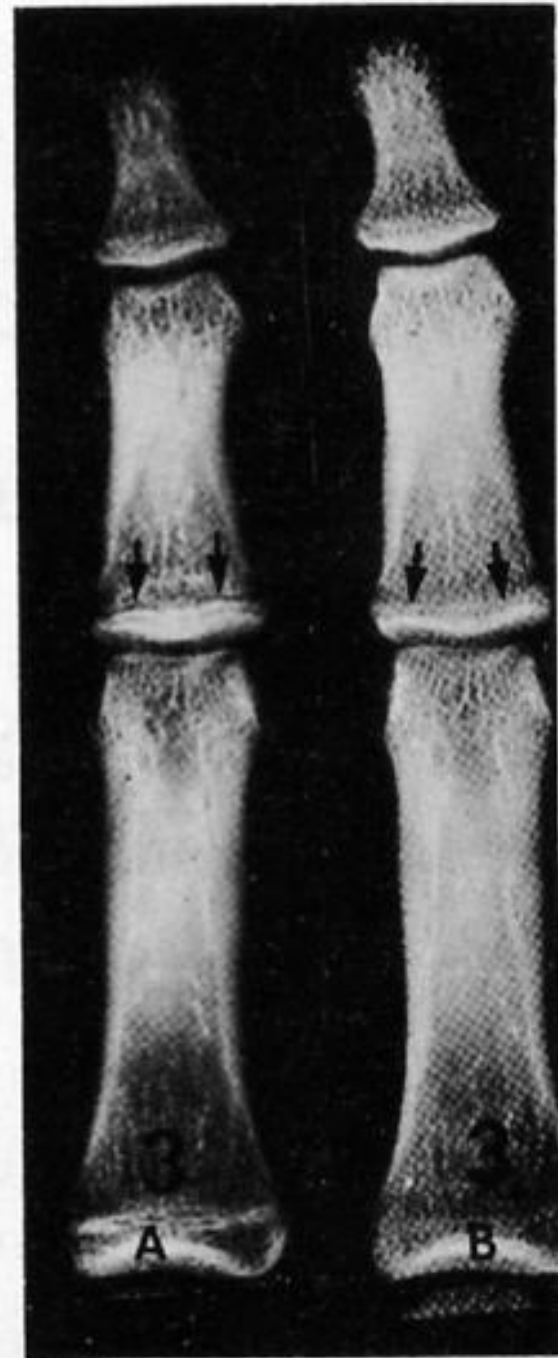
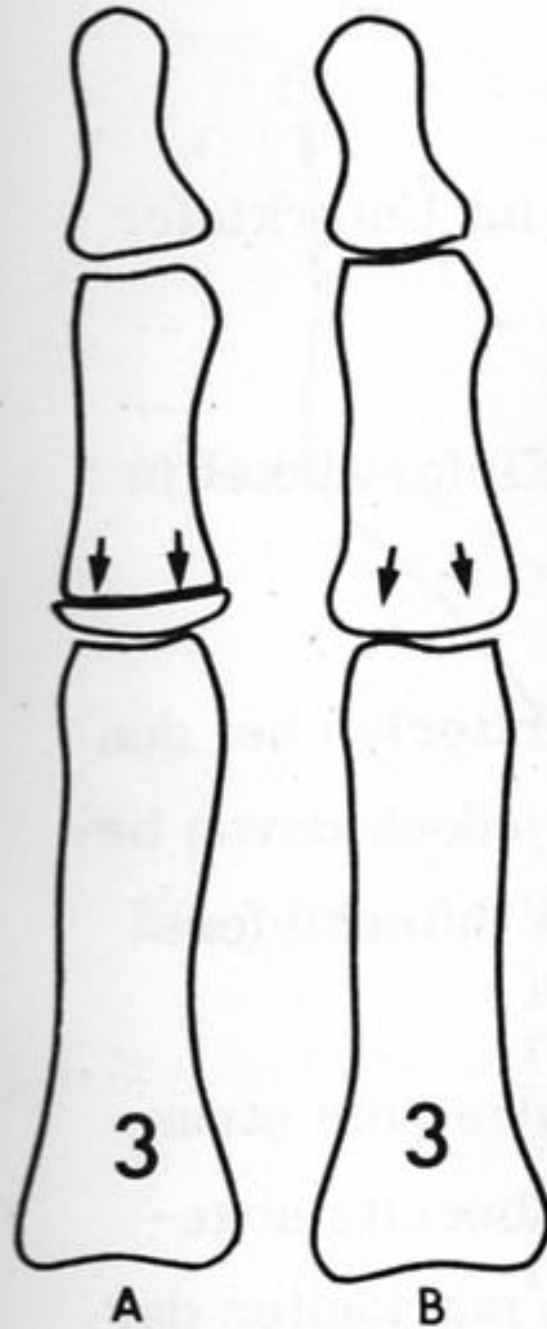
Wachstum pro Jahr (cm)



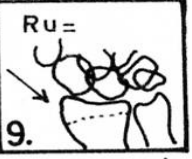
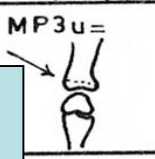
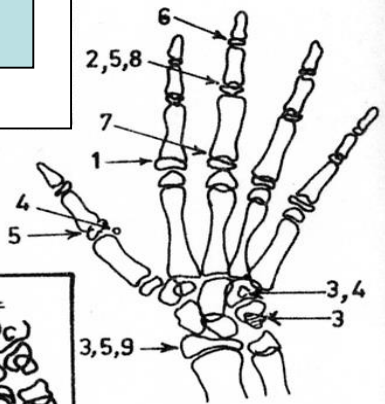


PP_{3U}

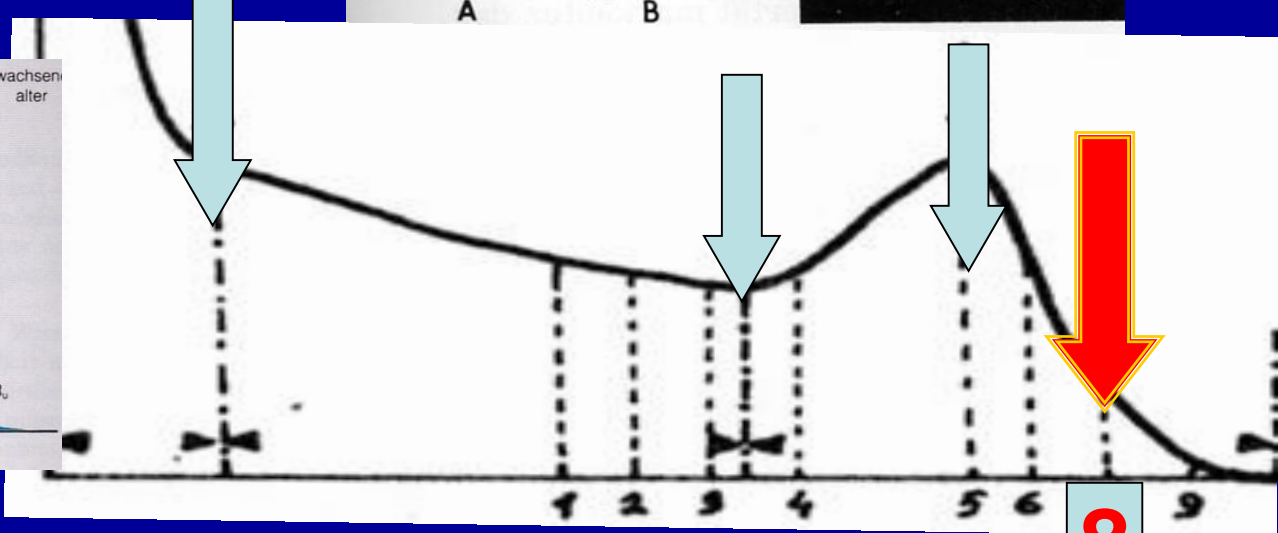
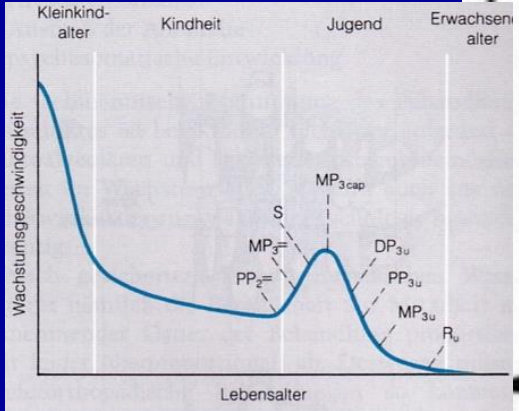
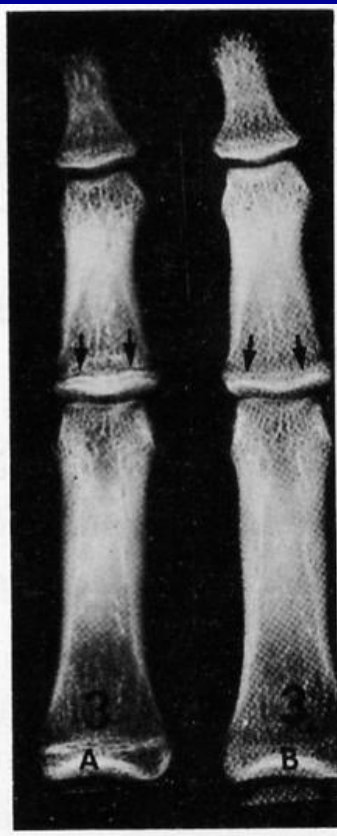
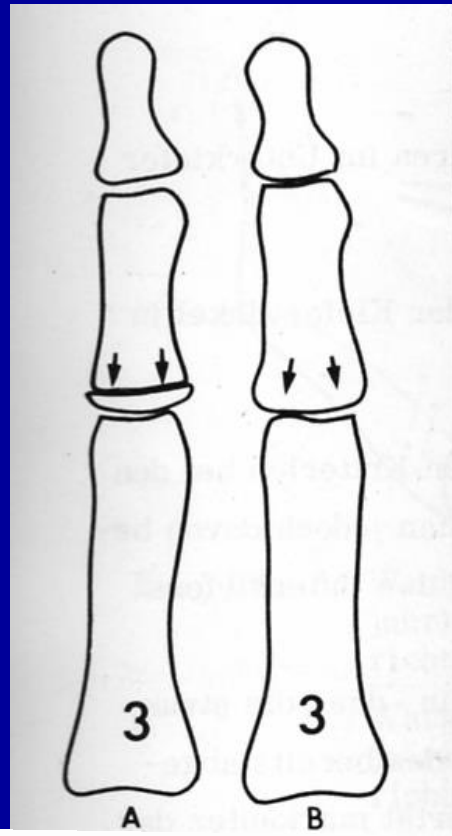
MP_{3U}



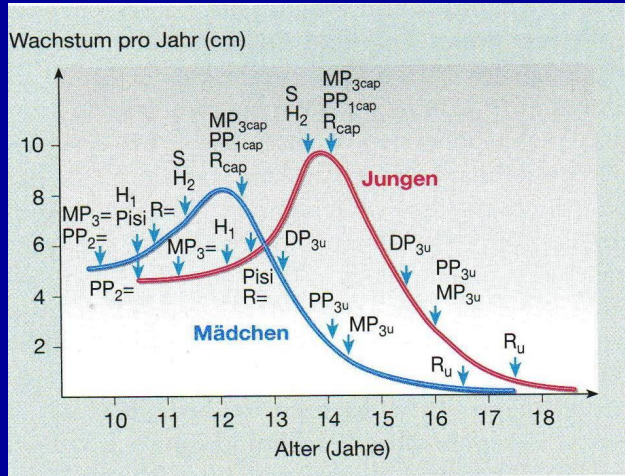
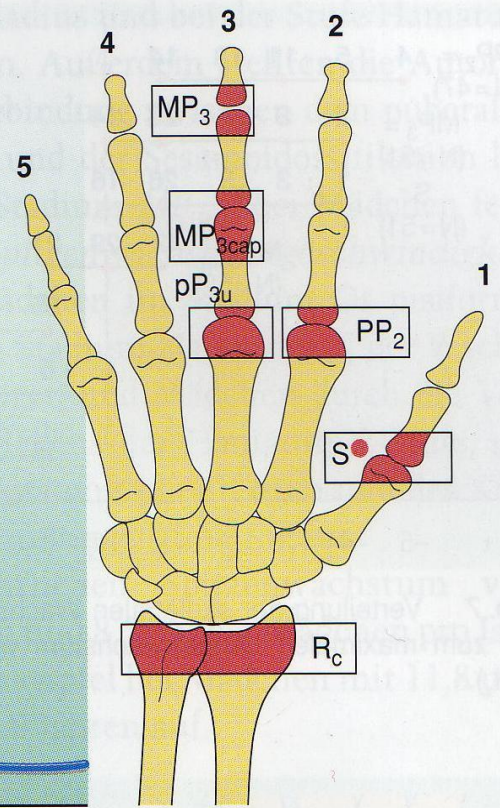
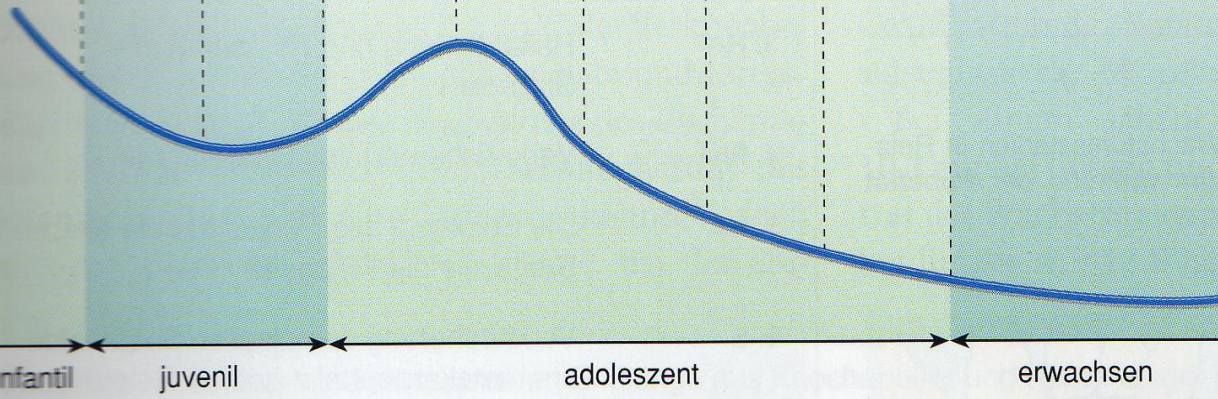
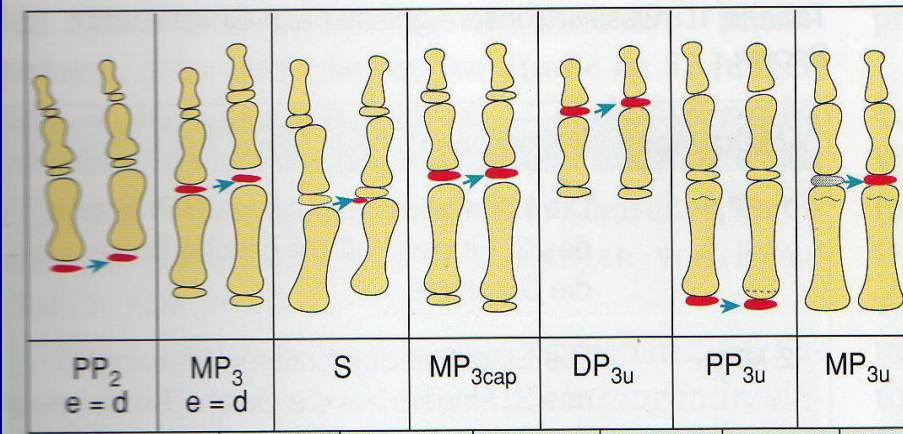
MP_{3u}



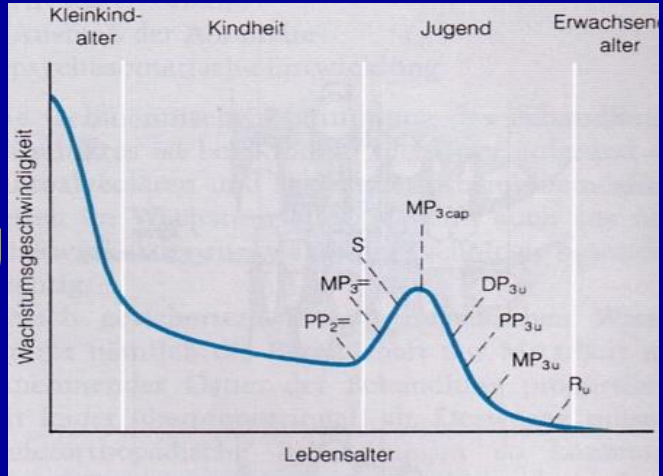
8



8



MP_{3u}



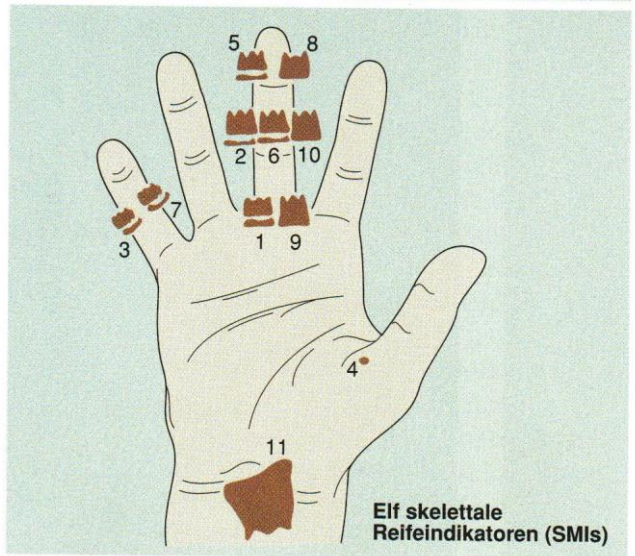
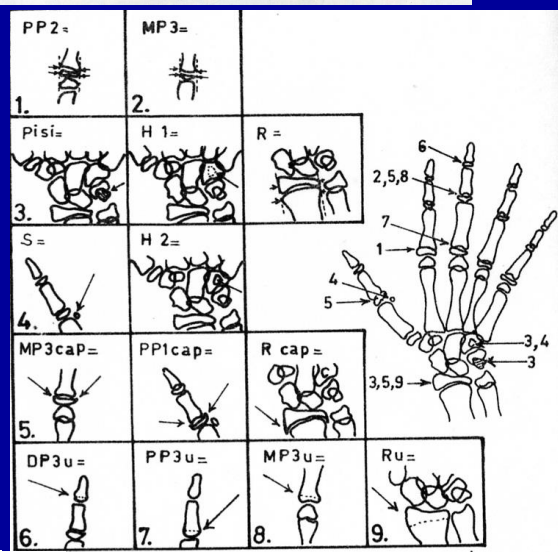
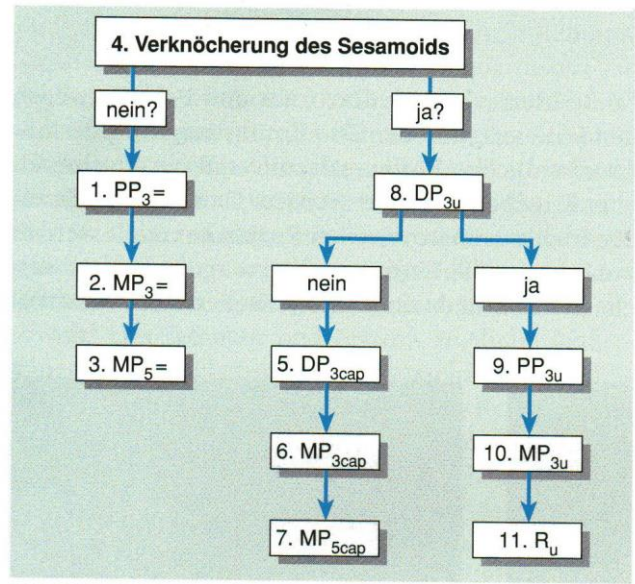
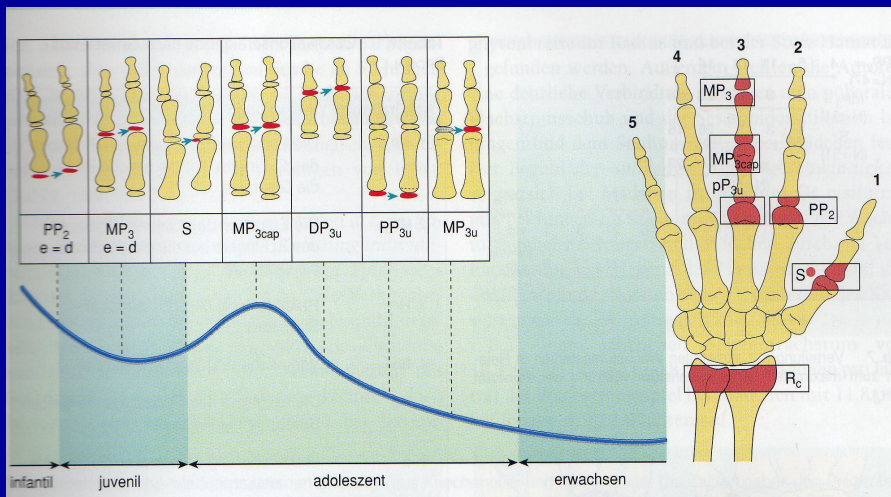
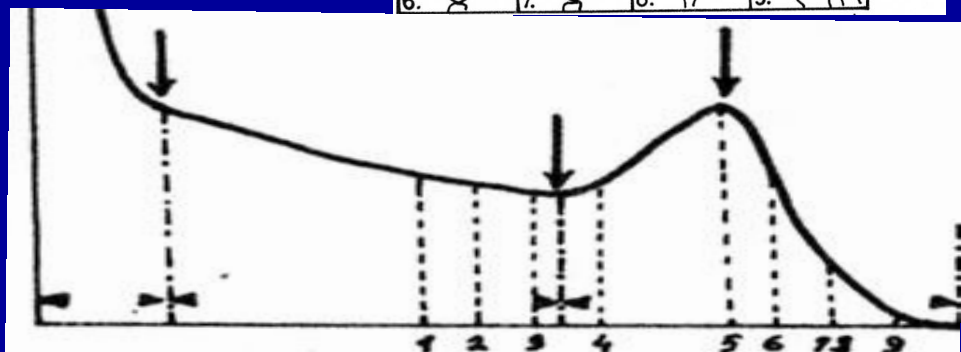


Abb. 5 Elf Indikatoren für die skelettale Reife (SMIs) und dazugehöriges Handwurzelbeobachtungsschema nach FISHMAN. Bei dieser Methode wird zunächst ein Schlüsselstadium, die Verknöcherung des Sesamoids am Daumen, als vorhanden oder nicht vorhanden beurteilt und anschließend werden die Reifeindikatoren schematisch abgecheckt.



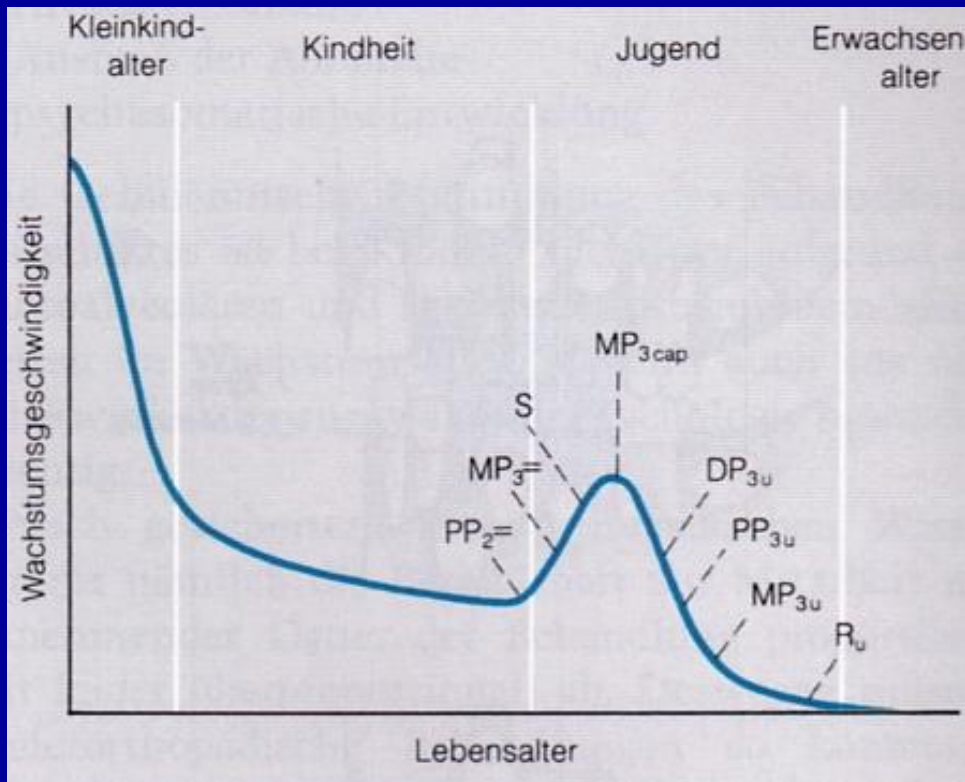


Tabelle 1 Ossifikationsereignisse nach GRABER und BROWN.

Abkürzungen	Definitionen
1. PP ₂ =	Die Epiphyse der proximalen Phalange des 2. Fingers hat die gleiche Breite wie die Diaphyse
2. MP ₃ =	Die Epiphyse der mittleren Phalange des 3. Fingers hat die gleiche Breite wie die Diaphyse
3. H-1	Hakenbildung des Os hamatum – Stadium 1
4. Pisi	Verknöcherung des Os pisiforme
5. R=	Die Epiphyse des Radius hat die gleiche Breite wie die Diaphyse
6. S	Verknöcherung des ulnaren Sesamoids am metakarpophalangealen Gelenk des Daumens
7. H-2	Verknöcherung des Os hamatum – Stadium 2
8. MP _{3cap}	Die Epiphyse der mittleren Phalange des 3. Fingers umkapselt ihre Diaphyse
9. PP _{1cap}	Die Epiphyse der proximalen Phalange des 1. Fingers umkapselt ihre Diaphyse
10. R _{cap}	Die Epiphyse des Radius umkapselt die Diaphyse
11. DP _{3u}	Vollständige epiphysiale Verschmelzung der distalen Phalange des 3. Fingers
12. PP _{3u}	Vollständige epiphysiale Verschmelzung der proximalen Phalange des 3. Fingers
13. MP _{3u}	Vollständige epiphysiale Verschmelzung der mittleren Phalange des 3. Fingers
14. R _u	Vollständige ephiphysiale Verschmelzung des Radius

Abb. 4 Handwurzelröntgen-
aufnahmen von zwei asiatischen weiblichen Geschwistern, die beide eine sehr ausgeprägte dentoalveoläre und skelettale Anomalie (Pseudo-progenie) mit hoher Behandlungsindikation aufweisen.

a) Elf Jahre und sechs Monate alte Patientin, die im detaillierten Vergleich mit dem Handröntgenatlas nach GREULICH und PYLE ein skelettales Alter von elf bis zwölf Jahren sowie ein Entwicklungsstadium Sesamoid nach BJÖRK aufweist.

b) Bei der zwölf Jahre und neun Monate alten Schwester zeigt sich das Stadium MP3unit bei einem skelettalen Alter von 14 Jahren, so daß bei ihr eine deutliche Diskrepanz zwischen chronologischem und skelettalem Alter von über einem Jahr vorliegt.



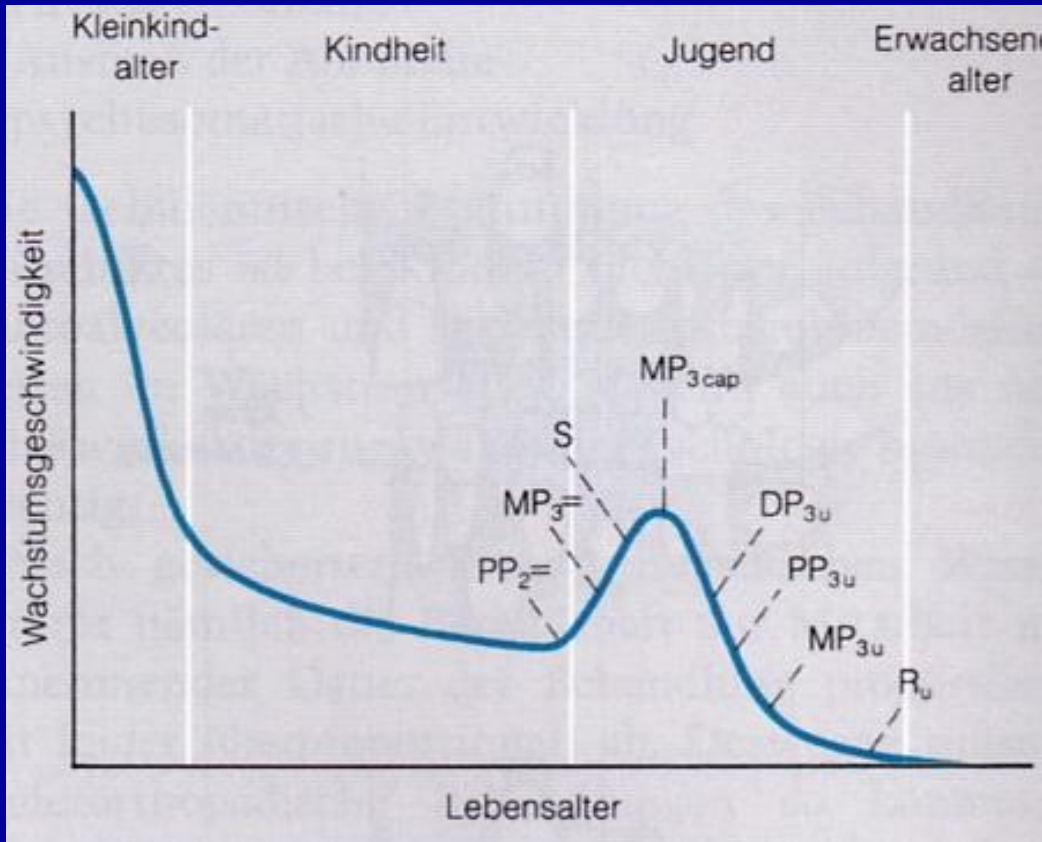
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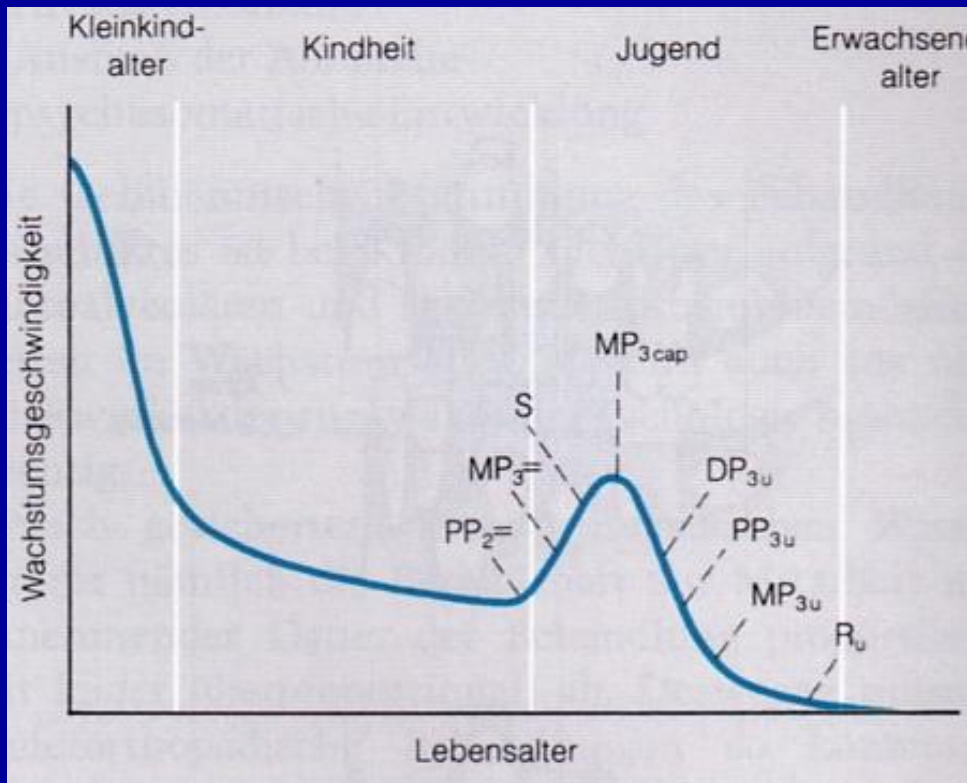


b

BÜYÜME EĞRİSİ ÜZERİNDE DEĞERLENDİRME:

- ERKEK HASTA,
- TAKVİM YAŞI : 13 YIL 6 AY





MP3cap



RADIOGRAPHIC ATLAS OF
SKELETAL DEVELOPMENT
OF THE HAND AND WRIST

SECOND EDITION

WILLIAM WALTER GREULICH

Professor of Anatomy, Stanford University School of Medicine

S. IDELL PYLE

*Research Associate, Departments of Anatomy, Western Reserve University
and Stanford University Schools of Medicine*

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AVERAGE BOYS

PERCENTAGES AND ESTIMATED MATURE HEIGHTS FOR BOYS WITH SKELETAL AGES WITHIN
ONE YEAR OF THEIR CHRONOLOGICAL AGES

Skeletal Ages 13 Years to Maturity

Skeletal Age	13-0	13-3	13-6	13-9	14-0	14-3	14-6	14-9	15-0	15-3	15-6	15-9	16-0	16-3	16-6	16-9	17-0	17-3	17-6	17-9	18-0	18-3	18-6
% of Mature Height	87.6	89.0	90.2	91.4	92.7	93.8	94.8	95.8	96.8	97.3	97.6	98.0	98.2	98.5	98.7	98.9	99.1	99.3	99.4	99.5	99.6	99.8	100.0
Ht. (inches)																							
53	60.5																						
54	61.6	60.7																					
55	62.8	61.8	61.0	60.2																			
56	63.9	62.9	62.1	61.3	60.4																		
57	65.1	64.0	63.2	62.4	61.5	60.8	60.1																
58	66.2	65.2	64.3	63.5	62.6	61.8	61.2	60.5															
59	67.4	66.3	65.4	64.6	63.6	62.9	62.2	61.6	61.0	60.6	60.5	60.2	60.1										
60	68.5	67.4	66.5	65.6	64.7	64.0	63.3	62.6	62.0	61.7	61.5	61.2	61.1	60.9	60.8	60.7	60.5	60.4	60.4	60.3	60.2	60.1	60.0
61	69.6	68.5	67.6	66.7	65.8	65.0	64.3	63.7	63.0	62.7	62.5	62.2	62.1	61.9	61.8	61.7	61.6	61.4	61.4	61.3	61.2	61.1	61.0
62	70.8	69.7	68.7	67.8	66.9	66.1	65.4	64.7	64.1	63.7	63.5	63.3	63.1	62.9	62.8	62.7	62.6	62.4	62.4	62.3	62.2	62.1	62.0
63	71.9	70.8	69.8	68.9	68.0	67.2	66.5	65.8	65.1	64.7	64.5	64.3	64.2	64.0	63.8	63.7	63.6	63.4	63.4	63.3	63.3	63.1	63.0
64	73.1	71.9	71.0	70.0	69.0	68.2	67.5	66.8	66.1	65.8	65.6	65.3	65.2	65.0	64.8	64.7	64.6	64.4	64.4	64.3	64.3	64.1	64.0
65	74.2	73.0	72.1	71.1	70.1	69.3	68.6	67.8	67.2	66.8	66.6	66.3	66.2	66.0	65.9	65.7	65.6	65.5	65.4	65.3	65.3	65.1	65.0
66	75.3	74.2	73.2	72.2	71.2	70.4	69.6	68.9	68.2	67.8	67.6	67.3	67.2	67.0	66.9	66.7	66.6	66.5	66.4	66.3	66.3	66.1	66.0
67	76.5	75.3	74.3	73.3	72.3	71.4	70.7	69.9	69.2	68.9	68.6	68.4	68.2	68.0	67.9	67.7	67.6	67.5	67.4	67.3	67.3	67.1	67.0
68	77.6	76.4	75.4	74.4	73.4	72.5	71.7	71.0	70.3	69.9	69.7	69.4	69.2	69.0	68.9	68.8	68.6	68.5	68.4	68.3	68.3	68.1	68.0
69	78.8	77.5	76.5	75.5	74.4	73.6	72.8	72.0	71.3	70.9	70.7	70.4	70.3	70.0	69.9	69.8	69.6	69.5	69.4	69.3	69.3	69.1	69.0
70	79.9	78.7	77.6	76.6	75.5	74.6	73.8	73.1	72.3	71.9	71.7	71.4	71.3	71.1	70.9	70.8	70.6	70.5	70.4	70.4	70.3	70.1	70.0
71		79.8	78.7	77.7	76.6	75.7	74.9	74.1	73.4	73.0	72.7	72.4	72.3	72.1	71.9	71.8	71.6	71.5	71.4	71.4	71.3	71.1	71.0
72		80.9	79.8	78.8	77.7	76.8	75.9	75.2	74.4	74.0	73.8	73.5	73.3	73.1	73.0	72.8	72.7	72.5	72.4	72.4	72.3	72.1	72.0
73			80.9	79.9	78.7	77.8	77.0	76.2	75.4	75.0	74.8	74.5	74.3	74.1	74.0	73.8	73.7	73.5	73.4	73.4	73.3	73.1	73.0
74					79.8	78.9	78.1	77.2	76.4	76.0	75.8	75.5	75.4	75.1	75.0	74.8	74.7	74.5	74.4	74.4	74.3	74.1	74.0
75					80.9	80.0	79.1	78.3	77.5	77.1	76.8	76.5	76.4	76.1	76.0	75.8	75.7	75.5	75.5	75.4	75.3	75.2	75.0
76							80.2	79.3	78.5	78.1	77.9	77.6	77.4	77.2	77.0	76.8	76.7	76.5	76.5	76.4	76.3	76.2	76.0
77								80.4	79.5	79.1	78.9	78.6	78.4	78.2	78.0	77.9	77.7	77.5	77.5	77.4	77.3	77.2	77.0
78									80.6	80.2	79.9	79.6	79.4	79.2	79.0	78.9	78.7	78.5	78.5	78.4	78.3	78.2	78.0

AVERAGE GIRLS

PERCENTAGES AND ESTIMATED MATURE HEIGHTS FOR GIRLS WITH SKELETAL AGES WITHIN
ONE YEAR OF THEIR CHRONOLOGICAL AGES

Skeletal Ages 6 Through 11 Years

Skeletal Age	6-0	6-3	6-6	6-10	7-0	7-3	7-6	7-10	8-0	8-3	8-6	8-10	9-0	9-3	9-6	9-9	10-0	10-3	10-6	10-9	11-0	11-3	11-6	11-9
% of Mature Height	72.0	72.9	73.8	75.1	75.7	76.5	77.2	78.2	79.0	80.1	81.0	82.1	82.7	83.6	84.4	85.3	86.2	87.4	88.4	89.6	90.6	91.0	91.4	91.8
Ht. (inches)																								
37	51.4																							
38	52.8	52.1	51.5																					
39	54.2	53.5	52.8	52.0	51.5	51.0																		
40	55.6	54.9	54.2	53.3	52.8	52.3	51.8	51.2																
41	56.9	56.2	55.6	54.6	54.2	53.6	53.1	52.4	51.9	51.2														
42	58.3	57.6	56.9	55.9	55.5	54.9	54.4	53.7	53.2	52.4	51.9	51.2												
43	59.7	59.0	58.3	57.3	56.8	56.2	55.7	55.0	54.4	53.7	53.1	52.4	52.0	51.4										
44	61.1	60.4	59.6	58.6	58.1	57.5	57.0	56.3	55.7	54.9	54.3	53.6	53.2	52.6	52.1	51.6	51.0							
45	62.5	61.7	61.0	59.9	59.4	58.8	58.3	57.5	57.0	56.2	55.6	54.8	54.4	53.8	53.3	52.8	52.2	51.5						
46	63.9	63.1	62.3	61.3	60.8	60.1	59.6	58.8	58.2	57.4	56.8	56.0	55.6	55.0	54.5	53.9	53.4	52.6	52.0	51.3				
47	65.3	64.5	63.7	62.6	62.1	61.4	60.9	60.1	59.5	58.7	58.0	57.2	56.8	56.2	55.7	55.1	54.5	53.8	53.2	52.5	51.9	51.6	51.4	51.2
48	66.7	65.8	65.0	63.9	63.4	62.7	62.2	61.4	60.8	59.9	59.3	58.5	58.0	57.4	56.9	56.3	55.7	54.9	54.3	53.6	53.0	52.7	52.5	52.3
49	68.1	67.2	66.4	65.2	64.7	64.1	63.5	62.7	62.0	61.2	60.5	59.7	59.3	58.6	58.1	57.4	56.8	56.1	55.4	54.7	54.1	53.8	53.6	53.4
50	69.4	68.6	67.8	66.6	66.1	65.4	64.8	63.9	63.3	62.4	61.7	60.9	60.5	59.8	59.2	58.6	58.0	57.2	56.6	55.8	55.2	54.9	54.7	54.5
51	70.8	70.0	69.1	67.9	67.4	66.7	66.1	65.2	64.6	63.7	63.0	62.1	61.7	61.0	60.4	59.8	59.2	58.4	57.7	56.9	56.3	56.0	55.8	55.6
52	72.2	71.3	70.5	69.2	68.7	68.0	67.4	66.5	65.8	64.9	64.2	63.3	62.9	62.2	61.6	61.0	60.3	59.5	58.8	58.0	57.4	57.1	56.9	56.6
53	73.6	72.7	71.8	70.6	70.0	69.3	68.7	67.8	67.1	66.2	65.4	64.6	64.1	63.4	62.8	62.1	61.5	60.6	60.0	59.2	58.5	58.2	58.0	57.7
54		74.1	73.2	71.9	71.3	70.6	69.9	69.1	68.4	67.4	66.7	65.8	65.3	64.6	64.0	63.3	62.6	61.8	61.1	60.3	59.6	59.3	59.1	58.8
55			74.5	73.2	72.7	71.9	71.2	70.3	69.6	68.7	67.9	67.0	66.5	65.8	65.2	64.5	63.8	62.9	62.2	61.4	60.7	60.4	60.2	59.9
56				74.6	74.0	73.2	72.5	71.6	70.9	69.9	69.1	68.2	67.7	67.0	66.4	65.7	65.0	64.1	63.3	62.5	61.8	61.5	61.3	61.0
57						74.5	73.8	72.9	72.2	71.2	70.4	69.4	68.9	68.2	67.5	66.8	66.1	65.2	64.5	63.6	62.9	62.6	62.4	62.1
58								74.2	73.4	72.4	71.6	70.6	70.1	69.4	68.7	68.0	67.3	66.4	65.6	64.7	64.0	63.7	63.5	63.2
59									74.7	73.7	72.8	71.9	71.3	70.6	69.9	69.2	68.4	67.5	66.7	65.8	65.1	64.8	64.6	64.3
60										74.9	74.1	73.1	72.6	71.8	71.1	70.3	69.6	68.7	67.9	67.0	66.2	65.9	65.6	65.4
61												74.3	73.8	73.0	72.3	71.5	70.8	69.8	69.0	68.1	67.3	67.0	66.7	66.4
62														74.2	73.5	72.7	71.9	70.9	70.1	69.2	68.4	68.1	67.8	67.5
63															74.6	73.9	73.1	72.1	71.3	70.3	69.5	69.2	68.9	68.6
64																	74.2	73.2	72.4	71.4	70.6	70.3	70.0	69.7
65																		74.4	73.5	72.5	71.7	71.4	71.1	70.8
66																			74.7	73.7	72.9	72.5	72.2	71.9
67																				74.8	74.0	73.6	73.3	73.0
68																						74.7	74.4	74.1

RETARDED BOYS

PERCENTAGES AND ESTIMATED MATURE HEIGHTS FOR BOYS WITH SKELETAL AGES ONE YEAR
OR MORE RETARDED FOR THEIR CHRONOLOGICAL AGES

Skeletal Ages 6 Through 13 Years

Skeletal Age	6-0	6-3	6-6	6-9	7-0	7-3	7-6	7-9	8-0	8-3	8-6	8-9	9-0	9-3	9-6	9-9	10-0	10-3	10-6	10-9	11-0	11-3	11-6	11-9	12-0	12-3	12-6	12-9	13-0		
% of Mature Height	68.0	69.0	70.0	70.9	71.8	72.8	73.8	74.7	75.6	76.5	77.3	77.9	78.6	79.4	80.0	80.7	81.2	81.6	81.9	82.1	82.3	82.7	83.2	83.9	84.5	85.2	86.0	86.9	88.0		
Ht. (inches)																															
41	60.3																														
42	61.8	60.9	60.0																												
43	63.2	62.3	61.4	60.6																											
44	64.7	63.8	62.9	62.1	61.3	60.4																									
45	66.2	65.2	64.3	63.5	62.7	61.8	61.0	60.2																							
46	67.6	66.7	65.7	64.9	64.1	63.2	62.3	61.6	60.8	60.1																					
47	69.1	68.1	67.1	66.3	65.5	64.6	63.7	62.9	62.2	61.4	60.8	60.3																			
48	70.6	69.6	68.6	67.7	66.9	65.9	65.0	64.3	63.5	62.7	62.1	61.6	61.1	60.5	60.0																
49	72.1	71.0	70.0	69.1	68.3	67.3	66.4	65.6	64.8	64.1	63.4	62.9	62.3	61.7	61.3	60.7	60.3	60.0													
50	73.5	72.5	71.4	70.5	69.6	68.7	67.8	66.9	66.1	65.4	64.7	64.2	63.6	63.0	62.5	62.0	61.6	61.3	61.1	60.9	60.8	60.5	60.1								
51	75.0	73.9	72.9	71.9	71.0	70.1	69.1	68.3	67.5	66.7	66.0	65.4	64.9	64.2	63.8	63.2	62.8	62.5	62.3	62.1	62.0	61.7	61.3	60.8	60.4						
52	76.5	75.4	74.3	73.3	72.4	71.4	70.5	69.6	68.8	68.0	67.3	66.8	66.2	65.5	65.0	64.4	64.0	63.7	63.5	63.3	63.2	62.9	62.5	62.0	61.5	61.0	60.5				
53	77.9	76.8	75.7	74.8	73.8	72.8	71.8	71.0	70.1	69.3	68.6	68.0	67.4	66.8	66.3	65.7	65.3	65.0	64.7	64.6	64.4	64.1	63.7	63.2	62.7	62.2	61.6	61.0	60.2		
54	79.4	78.3	77.1	76.2	75.2	74.2	73.2	72.3	71.4	70.6	69.9	69.3	68.7	68.0	67.5	66.9	66.5	66.2	65.9	65.8	65.6	65.3	64.9	64.4	63.9	63.4	62.8	62.1	61.4		
55	80.9	79.7	78.6	77.6	76.6	75.5	74.5	73.6	72.8	71.9	71.2	70.6	70.0	69.3	68.8	68.2	67.7	67.4	67.2	67.0	66.8	66.5	66.1	65.6	65.1	64.6	64.0	63.3	62.5		
56			80.0	79.0	78.0	76.9	75.9	75.0	74.1	73.2	72.4	71.9	71.2	70.5	70.0	69.4	69.0	68.6	68.4	68.2	68.0	67.7	67.3	66.7	66.3	65.7	65.1	64.4	63.6		
57				80.4	79.4	78.3	77.2	76.3	75.4	74.5	73.7	73.2	72.5	71.8	71.3	70.6	70.2	69.9	69.6	69.4	69.3	68.9	68.5	67.9	67.5	66.9	66.3	65.6	64.8		
58					80.8	79.7	78.6	77.6	76.7	75.8	75.0	74.5	73.8	73.0	72.5	71.9	71.4	71.1	70.8	70.6	70.5	70.1	69.7	69.1	68.6	68.1	67.4	66.7	65.9		
59							79.9	79.0	78.0	77.1	76.3	75.7	75.1	74.3	73.8	73.1	72.7	72.3	72.0	71.9	71.7	71.3	70.9	70.3	69.8	69.2	68.6	67.9	67.0		
60								80.3	79.4	78.4	77.6	77.0	76.3	75.6	75.0	74.4	73.9	73.5	73.3	73.1	72.9	72.6	72.1	71.5	71.0	70.4	69.8	69.0	68.2		
61									80.7	79.7	78.9	78.3	77.6	76.8	76.3	75.6	75.1	74.8	74.5	74.3	74.1	73.8	73.3	72.7	72.2	71.6	70.9	70.2	69.3		
62										80.2	79.6	78.9	78.1	77.5	76.8	76.4	76.0	75.7	75.5	75.3	75.0	74.5	73.9	73.4	72.8	72.1	71.3	70.5			
63											80.9	80.2	79.3	78.8	78.1	77.6	77.2	76.9	76.7	76.5	76.2	75.7	75.1	74.6	73.9	73.3	72.5	71.6			
64												80.6	80.0	79.3	78.8	78.1	78.0	77.8	77.4	77.0	76.8	76.4	75.9	75.3	74.6	73.9	73.3	72.5	71.6		
65													80.5	80.0	79.3	78.8	78.4	78.1	78.0	77.8	77.4	77.0	76.9	76.3	75.7	75.1	74.4	73.6	72.7		
66														80.5	80.0	79.7	79.4	79.2	79.0	78.8	78.6	78.1	77.5	76.9	76.3	75.7	75.1	74.4	73.9		
67																	80.9	80.6	80.4	80.2	79.8	79.3	78.7	78.1	77.5	76.7	75.9	75.0			
																						80.5	79.9	79.3	78.6	77.9	77.1	76.1			





İskelet Yaşı:

- 13 yıl 6 ay
- ERKEK



İskelet Yaşı:

- 15 YIL
- ERKEK



İskelet Yaşı:

- 15 YIL, 6AY
- ERKEK



İskelet Yaşı:

- 16 YIL,
- ERKEK



İskelet Yaşı:

- 17 YIL,
- ERKEK



İskelet Yaşı:

- 18 YIL, 6 AY
- ERKEK



İskelet Yaşı:

- 15 YIL, 6AY
- ERKEK

BÜYÜME ATLASININ KULLANILMASI:

- ERKEK HASTA,
- TAKVİM YAŞI : 13 YIL 6 AY,
- İSKELET YAŞI: 15 YIL 6 AY



İskelet Yaşı:

- 15 YIL, 6AY
- ERKEK

İskelet Yaşı:

- 13 yıl 6 ay
- ERKEK

- ERKEK
HASTA,
- TAKVİM YAŞI :
13 YIL 6 AY,
- İSKELET YAŞI:
15 YIL 6 AY



- AVERAGE
BOYS



AVERAGE BOYS

PERCENTAGES AND ESTIMATED MATURE HEIGHTS FOR BOYS WITH SKELETAL AGES WITHIN
ONE YEAR OF THEIR CHRONOLOGICAL AGES

Skeletal Ages 13 Years to Maturity

Skeletal Age	13-0	13-3	13-6	13-9	14-0	14-3	14-6	14-9	15-0	15-3	15-6	15-9	16-0	16-3	16-6	16-9	17-0	17-3	17-6	17-9	18-0	18-3	18-6	
% of Mature Height	87.6	89.0	90.2	91.4	92.7	93.8	94.8	95.8	96.8	97.6	98.5	98.7	98.9	99.1	99.3	99.4	99.5	99.6	99.8	100.0				
Ht. (inches)																								
53	60.5																							
54	61.6	60.7																						
55	62.8	61.8	61.0	60.2																				
56	63.9	62.9	62.1	61.3	60.4																			
57	65.1	64.0	63.2	62.4	61.5	60.8	60.1																	
58	66.2	65.2	64.3	63.5	62.6	61.8	61.2	60.5																
59	67.4	66.3	65.4	64.6	63.6	62.9	62.2	61.6	61.0	60.6	60.5	60.2	60.1											
60	68.5	67.4	66.5	65.6	64.7	64.0	63.3	62.6	62.0	61.7	61.5	61.2	61.1	60.9	60.8	60.7	60.5	60.4	60.4	60.3	60.2	60.1	60.0	
61	69.6	68.5	67.6	66.7	65.8	65.0	64.3	63.7	63.0	62.7	62.5	62.2	62.1	61.9	61.8	61.7	61.6	61.4	61.4	61.3	61.2	61.1	61.0	
62	70.8	69.7	68.7	67.8	66.9	66.1	65.4	64.7	64.1	63.7	63.5	63.3	63.1	62.9	62.8	62.7	62.6	62.4	62.4	62.3	62.2	62.1	62.0	
63	71.9	70.8	69.8	68.9	68.0	67.2	66.5	65.8	65.1	64.7	64.5	64.3	64.2	64.0	63.8	63.7	63.6	63.4	63.4	63.3	63.3	63.1	63.0	
64	73.1	71.9	71.0	70.0	69.0	68.2	67.5	66.8	66.1	65.8	65.6	65.3	65.2	65.0	64.8	64.7	64.6	64.4	64.4	64.3	64.3	64.1	64.0	
65	74.2	73.0	72.1	71.1	70.1	69.3	68.6	67.8	67.2	66.8	66.6	66.3	66.2	66.0	65.9	65.7	65.6	65.5	65.4	65.3	65.3	65.1	65.0	
66	75.3	74.2	73.2	72.2	71.2	70.4	69.6	68.9	68.2	67.8	67.6	67.3	67.2	67.0	66.9	66.7	66.6	66.5	66.4	66.3	66.3	66.1	66.0	
67	76.5	75.3	74.3	73.3	72.3	71.4	70.7	69.9	69.2	68.9	68.6	68.4	68.2	68.0	67.9	67.7	67.6	67.5	67.4	67.3	67.3	67.1	67.0	
68	77.6	76.4	75.4	74.4	73.4	72.5	71.7	71.0	70.3	69.9	69.7	69.4	69.2	69.0	68.9	68.8	68.6	68.5	68.4	68.3	68.3	68.1	68.0	
69	78.8	77.5	76.5	75.5	74.4	73.6	72.8	72.0	71.3	70.9	70.7	70.4	70.3	70.0	69.9	69.8	69.6	69.5	69.4	69.3	69.3	69.1	69.0	
70	79.9	78.7	77.6	76.6	75.5	74.6	73.8	73.1	72.3	71.9	71.7	71.4	71.3	71.1	70.9	70.8	70.6	70.5	70.4	70.4	70.3	70.1	70.0	
71		79.8	78.7	77.7	76.6	75.7	74.9	74.1	73.4	73.0	72.7	72.4	72.3	72.1	71.9	71.8	71.6	71.5	71.4	71.4	71.3	71.1	71.0	
72		80.9	79.8	78.8	77.7	76.8	75.9	75.2	74.4	74.0	73.8	73.5	73.3	73.1	73.0	72.8	72.7	72.5	72.4	72.4	72.3	72.1	72.0	
73			80.9	79.9	78.7	77.8	77.0	76.2	75.4	75.0	74.8	74.5	74.3	74.1	74.0	73.8	73.7	73.5	73.4	73.4	73.3	73.1	73.0	
74					79.8	78.9	78.1	77.2	76.4	76.0	75.8	75.5	75.4	75.1	75.0	74.8	74.7	74.5	74.4	74.4	74.3	74.1	74.0	
75					80.9	80.0	79.1	78.3	77.5	77.1	76.8	76.5	76.4	76.1	76.0	75.8	75.7	75.5	75.5	75.4	75.3	75.2	75.0	
76							80.2	79.3	78.5	78.1	77.9	77.6	77.4	77.2	77.0	76.8	76.7	76.5	76.5	76.4	76.3	76.2	76.0	
77								80.4	79.5	79.1	78.9	78.6	78.4	78.2	78.0	77.9	77.7	77.5	77.5	77.4	77.3	77.2	77.0	
78									80.6	80.2	79.9	79.6	79.4	79.2	79.0	78.9	78.7	78.5	78.5	78.4	78.3	78.2	78.0	

Sonuç:

Hasta boyca büyümesinin 97.6'sını tamamlamıştır.

Halen % 2.4'lük bir büyüme potansiyeli söz konusudur