*

:

:

Spearman

McNemar

% % / :

% / % /

$(P < /)$

:

(CVMS) :

(HWMS)
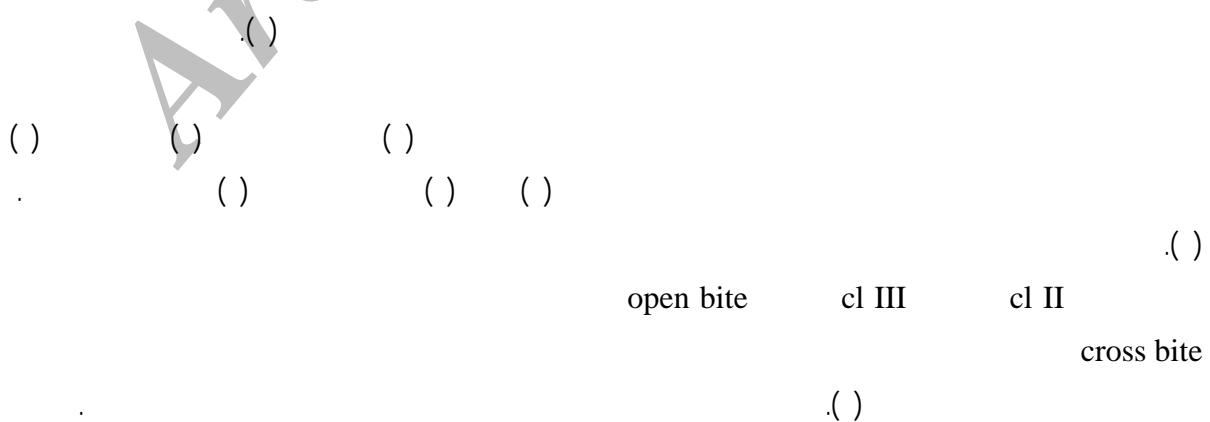
.( )

( ) ( ) ( )

. ( ) ( ) ( )

.( )

open bite   cl III   cl II

cross bite

. .( )

emami2@gmail.com :

Greulich ( )

Pyle ( ) Bjork ( )

( ) TW2 (.( )

.

( ) contrast .

sharpness distortion

.( ) . .

HWMS

Grave & Brown

( ) .

( )

.

.( ) CVMS Baccetti ( )

( )

.

.

/

:

(Diagnostic study)

.

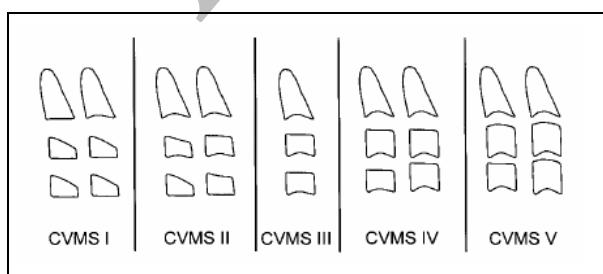| CVMS I | CVMS II | CVMS III | CVMS IV | CVMS V |

( )

.( )

CVMS I

.

C   C   C

PP₂   (%   %   .

.   .

MP₃   (C C   CVMS II

.   C   C

(%   %   .

:

Pisi   (CVMS III

.   Pisiform   .   C   C   C   C   C

H₁   (%   %

Hamatum   Hamular   .

.   CVMS IV

R   (C   C   C   C   C

.(   )   %   %

.

C   C   CVMS V
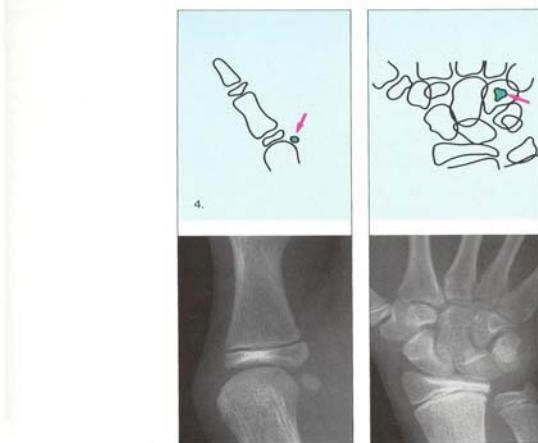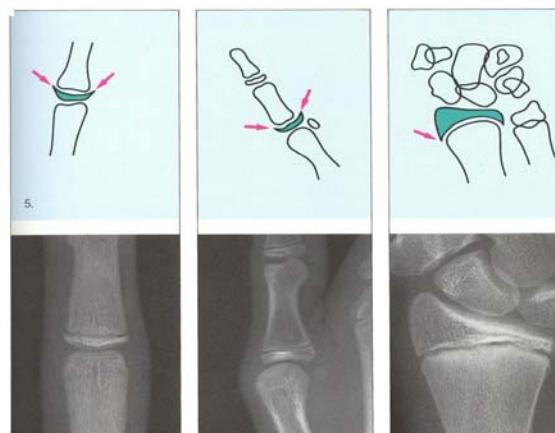
C   C   C

.

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(   )

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(   )

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.
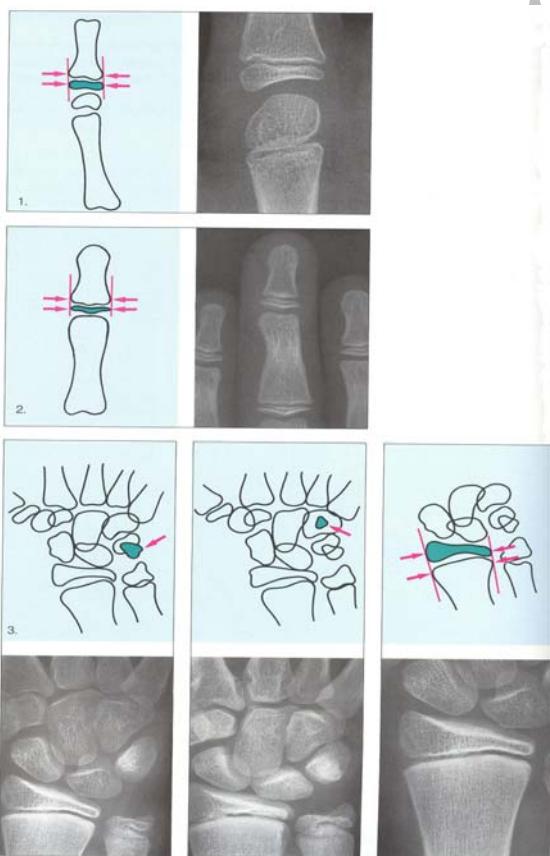
(DP$_3$

.

(PP$_{3u}$

.

(MP$_{3u}$

.

(R$_u$

( ).

McNemar

.

Spearman .

(:

(S

Metacarpophalangeal

.

(H

Hamatum .

(:

:

(MP$_{3\,cap}$

.

(PP$_{1cap}$
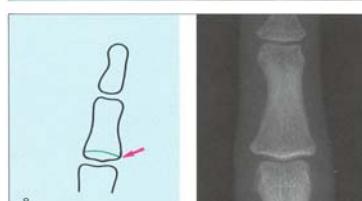
.

(R$_{cap}$

( ).

(   )

(% /)

% / % %   CVMS   (   )   (% /)

(/   )   %   % /   (%)   (%)

HWMS CVMS   .   / ± /   ± /

CVMS   /

HWMS CVMS   HWMS

Ordinal   .   % /

.   (Positive Predictive Value)   %

Negative Predictive)   % /

HWMS CVMS   CVMS   % / (Value

CVMS   % /

Fernandez   % /

(   )   ( )   .

.   %

.

Fishman

.

( )   kucukkeles

(   )   (% /)   (% /)   (% /)   (+)

.   (% /)   (% /)   (% /)   (   )

Fishman

.   (%)   (% /)   (% /)

"   McNemar

Chang   "

(   )   ( )   (r)   .(P< /)

%   (r^2)   /   HWMS CVMS

.   CVMS   %   /

"   .   HWMS

Mito "

%   ( )

TW2 .

Paolo Gandini .

( )

"   .

"

Caltabiano   ( )   )

(%

%   late effect   Stochastic .

.

)

Late Adolescent ,

Average Adolescent , Early Adolescent

C .   (

(Maturation Level)

%

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