PENCIL GRASP DEVELOPMENT

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	P	The state of the s			Grasp Illustration
Dynamic Tripod	Lateral Tripod	Four Finger	Static Tripod	Cross Thumb	Grasp
Pencil rests against the tip end of the middle finger, held by thumb and index finger pinching the pencil. Wrist is bent up and the forearm rests on the table with an open web space seen by a circle formed by the finger and	Pencil rests against the tip end of the middle finger, the index finger rests on top of the pencil and the thumb crosses and braces the pencil against the side border of the index finger. Wrist is slightly bent up with the fingers moving during writing and the ring and little fingers bent into the paim, adding stability	Pencil held with four fingers in opposition, wrist and finger movements, forearm positioned on table (Schneck & Henderson 1990)	Pencil stabilized against radial side of third digit by thumb pulp with index on top of shaft, thumb stabilized in full opposition, wrist slightly extended & hand moving as a unit, pencil resting on open web space, forearm resting on table (Rosenbloom & Horton, 1971)	Fingers fisted loosely into paim, pencil held against index finger with thumb crossed over pencil toward index finger, finger and wrist movement, forearm positioned on table (Gesell, 1940)	Grasp Description C
Manipul- ative Grasp	Manipul- ative Grasp	Link Grasp	Grasp	Grasp	1 1
5y 3m	5y 2m	4y 7m	,	4v 5m	Méan Age
+	+	+	4	slight	+ Wrist Extension
+		+		+	Opposition and Open Web Space
	verse & Longi-tudinal	All	tudinal & Oblique	verse Longi-	Arches of the Hand
	+	+		+	Finger Isolation
	+	+		+	Separation of Two Sides of the Hand
	+	+			Muscles of the Hand
	Pencil rests against the tip end of the middle Manipul- 5y 3m + + Finger, held by thumb and index finger pinching ative the pencil. Wrist is bent up and the forearm Grasp rests on the table with an open web space seen by a circle formed by the finger and	Pencil rests against the tip end of the middle finger, the Index finger rests on top of the pencil and the thumb crosses and braces the pencil against the side border of the index finger. Wrist is slightly bent up with the fingers finger. Wrist is slightly bent up with the fingers fingers bent into the palm, adding stability Pencil rests against the tip end of the middle fingers bent into the palm, adding stability Pencil rests against the tip end of the middle finger, held by thumb and index finger pinching the pencil. Wrist is bent up and the forearm rests on the table with an open web space seen by a circle formed by the finger and	Pencil held with four fingers in opposition, wrist and finger movements, forasp forearm positioned on table (Schneck & Henderson 1990) Pencil rests against the tip end of the middle finger; the index finger rests on top of the pencil and the thumb crosses and braces the pencil against the side border of the index finger. Wrist is slightly bent up with the fingers moving during writing and little fingers bent into the paim, adding stability Pencil rests against the tip end of the middle finger, held by thumb and index finger pinching the pencil. Wrist is bent up and the forearm rests on the table with an open web space seen by a circle formed by the finger and different movers and circle formed by the finger and different movers and the forearm rests on the table with an open web space seen by a circle formed by finger binching active fine finger and different movers and different movers and the forearm rests on the table with an open web space seen by a circle formed by the finger and different movers and different different movers and diffe	Static Pencil stabilized against floatial study on top of shaft, thumb pulp with index on top of shaft, thumb stabilized in full top opposition, wrist slightly extended 8 hand moving as a unit, pencil resting on opposition down as a unit, pencil resting on table (Rosenbloom & Horton, 1971) Four Pencil held with four fingers in opposition, wrist and finger movements, forearm positioned on table (Schneck & Henderson 1990) Lateral Index in the study of the middle finger, the index finger rests on top the bring and have seen and braces the pencil esplicit the slightly bear up with the fingers finger. What is slightly bear up with the fingers and flatter finger, the pencil rests spainst the tip end of the middle fingers bent into the paim, adding stability finger, the pencil wist is bent up and little finger, the pencil wist is bent up and little finger, the pencil wist is bent up and little fingers and flatter fingers in the bile within and draw finger pinching the pencil. Wrist is bent up and little finger and the forearm Grasp final hand the forearm of the space seen by a cricle formed by the finger and come of the final come of the final come of the finger and come of the final come of the final come of the final co	Fingers issed losely into paim, pendid crossed over pendid lower index finger. If thimb feld against index finger with himbot crossed over pendid lower index finger. If finger and wists movement, forearm. Static pendid stabilized against radial side of third digit by thumb pulp with index on top of shaft, thumb stabilized in full opposition, wrist slightly extended & hand moving as a unit, pendid resting on open web space, forearm resting on table (flosenbloom & Horton, 1971) Four poposition, wrist and finger inversing on table (flosenbloom & Horton, 1971) Lateral finger, the radial side of the middle flower inverse in the side broder of the index finger rests on top of the pendid and the thumb crosses and broders the pendid and the study bend up with the fingers in moving during writing and the finger state spalms that a peam, adding adaility bend up with the fingers in the stable with an open web space seen by a crice forement by the finger and crosses. Dynamic finger in the stable with an open web space seen by a crice forement by the finger and grant by a crice forement by the finger and grant by a crice forement by the finger and grant by a crice forement by the finger and grant by the grant forearm. All the hand finger in the space and grant finger and grant finger and grant finger and grant finder and grant finger and grant finder a

The above references were compiled and modified from: Visual Reference, Description: Schneck & Henderson (1990) Mean Age: Schneck (1987) Wrist Extension, Opposition & Open Web Space, Arches of the Hand, Finger Isolation, Muscles of the Hand: Potter/Bergmann (1992)

PENCIL GRASP DEVELOPMENT

		De Cir			Grasp Illustration
Grasp with Extended Fingers	Brush/ 3-Jaw Chuck	Digital Pronation	Palmar Supinate/ Dagger	Radial Cross Palmar/ Shovel	Grasp Name
Pencil held with fingers, wrist straight and pronated with slight ulnar deviation, forearm moves as a unit (Schneck & Henderson, 1990)	Pencil held with fingers, eraser end of pencil positioned against paim, hand pronated with wrist movement present, whole arm movement, forearm positioned in air (Schneck & Henderson, 1990)	Pencil held in palmar grasp with index finger extended along pencil toward tip, arm not supported on table, full arm movement (Morrison, 1978)	Pencil positioned across palm projecting ulnarly, held with fisted hand, wrist slightly flexed and supinated away from midposition, full arm movement (Erhardt, 1984)	Pencil positioned across palm projecting radially, held with fisted hand, forearm fully pronated, full arm movement (Morrison, 1978)	Grasp Description
Holding Grasp	Holding Grasp	Holding Grasp	Holding Grasp	Holding Grasp	Category
3y 11m	3y 10m	3y 8m	3y 8m	3y 4m	Mean Age
1	-	1	l	I	Wrist Extension
. +	,			3	Opposition and Open Web Space
Trans verse & Longl- tudinal	Longi- tudinal & Oblique	. Longi- tudinal	Trans- verse	Trans- verse	Arches of the Hand
•		+	,		Finger Isolation
	+		1		Separation of Two Sides of the Hand
					Muscles of the Hand

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