



Early-years swimming



Adding Capital to Young Australians

Final Report
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Milestone		0-6 months	7-12 months	13-18 months	19-24 months	25-36 months	37-48 months	49-60 months	61-72 months
Stands on tiptoe	Physical								
Climbs up and down furniture unassisted									
Walks up and down stairs holding on to support									
Climbs well									
Runs easily									
Stands on one leg for 10 seconds or longer									
Correctly names some colours	Cognitive								
Understands the concept of counting									
Begins to have a sense of time									
Recalls parts of a story									
Understands the concept of same/different									
Can count 10 or more objects									
Correctly names at least four colours	Socio-emotional								
Enthusiastic in the company of other children									
Demonstrates increasing independence									
Begins to show defiant behaviour									
Imitates adults and playmates									
Spontaneously shows affection for familiar playmates									
Separates easily from parents									
Interested in new experiences									
Cooperates with other children									
Plays mum and dad									
Says several single words	Linguistic								
Follows simple instructions									
Follows a two- or three- word command									
Identifies common objects and pictures									
Understands physical relationships (in, on under)									
Mastered some basic grammar									
Speaks clearly enough for strangers to understand									
Tells stories									
Uses future tense									
Key			Almost 50% of swimming children are already achieving this milestone.						
		Age groups in which at least 50% of swimming children are achieving.							
		CDC target for milestone to be achieved.							

PDMS-2 Sub-test Item	Mean Achievement (in months)	Sig. (2-tailed)	Mean Difference
Stationary Standing on tip toes, balancing, standing on one leg	42.81	.105	2.314
Locomotion Walking, hopping, running, climbing stairs	42.42	.104	1.917
Object Manipulation Kicking, throwing, catching balls	39.42	.409	-1.076
Grasping Holding objects, controlled use of fingers of both hands (eg. using a pen, buttoning).	44.92	.026*	4.417
Visual Motor Integration Eye-hand coordination – drawing, copying objects, building towers	41.22	.558	.717

* p < .05, ** p < .01¹

Table 15: Performance of Tercile Age 1 (mean age 40.5 months, n=60) on PDMS-2 Assessments

Sub-test	Group 1 (40.5 months) 60 children			Group 2 (48.8 months) n=63			Group 3 (60.2 months) n=54		
	Mean	Sig. (2-tailed)	Mean Diff	Mean	Sig. (2-tailed)	Mean Diff	Mean	Sig. (2-tailed)	Mean Diff
Stationary	42.81	.105	2.314	49.97	.411	1.168	61.44	.289	1.244
Locomotion	42.42	.104	1.917	52.22	.012*	3.422	65.24	.000**	5.041
Object Manipulation	39.42	.409	-1.076	45.48	.013*	-3.324	56.57	.031*	-3.626
Grasping	44.92	.026*	4.417	55.65	.004**	6.851	65.83	.000**	5.633
Visual Motor Integration	41.22	.558	.717	51.75	.087	2.946	65.41	.001**	5.207

* p < .05, ** p < .01

Table 18: Performance of the Whole Swimming Cohort by Tercile Age on PDMS-2 Assessments

¹ One asterisk denotes that p < .05 and two asterisks shows that p < .01. This is a measure of statistical significance. At these two levels, results are statistically significant.

Cluster	Indicative items included in General Skill	Mean	Significance	Mean Difference
Oral Language	Ability to recall short, but increasingly complex stories and to listen and follow a sequence of instructions.	59.68	.000**	10.216
Oral expression	Ability to name objects from illustrations and to recall short, but increasingly complex stories.	60.51	.000**	11.049
Brief achievement	Letter and word identification skills, prewriting skills, simple mathematical calculations.	52.38	.003**	2.922
Brief reading	Letter-word recognition and pre-reading passage comprehension skills (the ability to match symbols with pictures).	51.71	.015*	2.245
Mathematics reasoning	Simple mathematical calculations and counting and identifying numbers, shapes, and sequences	56.06	.000**	6.597

Table 21: Intellectual/Cognitive Capital: WJIII clusters in which independently assessed swimming children performed significantly better than normal population

Summary by Age Groupings

Sub-Test Item	Group 1 Mean Age: 40.5 months	Group 2 Mean Age: 48.8 months	Group 3 Mean Age: 60.2 months
Letter-Word Identification	.383	.216	1.630
Spelling	2.017	6.232	10.689*
Story Recall	15.883**	15.359**	17.857**
Passage Comprehension	-3.100	2.200	3.069*
Quantitative Concepts	7.398**	3.613*	-2.758
Applied Problems	9.083**	8.327**	5.646**
Understanding Directions	15.517**	16.502**	20.973**
Picture Vocabulary	4.233**	7.771**	3.896**

* p < .05, ** p < .01