

Contents

1 Basic Principles: Behavioral History and What It Means	1
Risk Factors, Information Integration, Over	
and Under Using Data, and Report Phraseology	2
Developmental History and the Traditional Training Paradigm	4
Case 1	5
Apgar Scores: How Are They Useful?	10
A Selective Review of Basic Developmental “At Risk” Factors	10
Premature Birth	11
Feeding, Language, and Reward	12
Hyperbilirubinemia	14
Prenatal Reflexes: Why Are They Important?	15
The Progression from Sitting to Crawling to Walking:	
Why Is This Important?	16
Additional Case Presentations	20
Case 2: An Erroneous and Misleading History	20
Case 3	22
Discussion	22
References	23
2 Methods of Neuropsychological Test Interpretation	27
Introduction	27
Additional Introductory Issues: Assumptions, Facts, and Biases	28
Collecting Clinical Data: Defining the Problems	31
Case 4: Timmy	34
The Quantification of Behavior	36
Levels of Inference in Neuropsychological Test Interpretation	37
The Level of Performance	38
Pattern Analysis	39
Pathognomonic Signs	40

The Analysis of Sensory and Motor Data.....	41
Interim Summary	44
Challenges for Neuropsychology.....	45
References.....	47
3 The Normal Distribution of the Bell-Shaped Curve.....	49
The Normal Distribution.....	50
Limitations of Standard Normal Distributions.....	52
Application and Misapplication of Statistical Processes	54
Chance Variation and Statistical Versus Clinical Significance	56
More About Statistical Conversions Versus Normal Distributions.....	58
References.....	60
4 Beyond the Bell-Shaped Curve.....	63
Intra-individual and Other Test Score Comparisons.....	63
The Medial Temporal Lobe Memory System.....	65
Interim Conclusions	71
More About Test Pattern Analysis	71
Summary	76
References.....	76
5 The Interpretive Significance of Pathognomonic Signs.....	79
False Positive and False Negative Errors	82
Pathognomonic Signs in Neuro-Developmental Disorders	83
Continuous Performance Tests, Stop Signal Tasks, and Go-No Go Paradigms: Unfortunate Misunderstandings and the Controversy	84
Case 5.....	89
Case 6.....	90
Reading and Spelling: Predictive Observations and Pathognomonic Signs of Disorder	91
References.....	96
6 Tradition and Innovation: Making the Neuropsychological Evaluation a More Powerful Tool.....	101
Practice Effect: What Is It and Should It Always Be Avoided?.....	103
Case 7.....	109
Perception/Idea-Action Coupling	112
Case 8.....	114
Case 9: RCFT Evidence of Compromised Functioning Within the VAN, DAN, FPN, AND SMN Systems	118
Case 10: "Everything that Counts Cannot Be Counted"	122
Summary	124
References.....	126

7 Summary.....	129
“You Can’t Teach an Old Dog New Tricks”:	
Where Did Clinical Neuropsychology Go Wrong?.....	129
References.....	134
Index.....	137

“Even a mistake may turn out to be the one thing necessary to a worthwhile achievement.”

Henry Ford

“Never tell people how to do things. Tell them what to do and they will surprise you with their ingenuity.”

George S. Patton

“Nothing pains your people more than having to think.”

Martin Luther King, Jr.

This chapter is about obtaining history information. Every neuropsychologist knows how to do this aspect of the evaluation. The focus of this chapter is more specific. In the old days and age, the histories we obtain tend to be more detailed; we need to delve more deeply into a person's background if only because recent years have taught us much more about neurodevelopmental factors than we ever knew before. Nevertheless, our knowledge of development still remains in its infancy. Different professions are highly specialized; these professions such as Speech/Language pathology and Occupational Therapy use developmental data to guide their interventions, and in many cases, neuropsychologists could benefit from the knowledge of these professions but they are not experts in it. Therefore, this chapter focuses on the integration of developmental data with neuropsychological data. It examines various factors of development that are not only important, but also should be woven into the summary of the patient's report. The summary not only specifies the findings, but also provides the opportunity to integrate information from the person's history in order to better understand the objective test results, and then, stating the appropriate evidence-based interventions. This is particularly important in cases of pediatric neuropsychological assessment when complicated neurodevelopmental data can often make the presenting problem either more complicated. Developmental history is frequently unknown or difficult to fully ascertain when evaluating an