

## LECTURE ONE: BASIC INFORMATION

Terms .....	1
The disorder	
Other terms	
Those who have the disorder	
When people stutter	
When people do not stutter	
Stuttering moments	
A summary of recommended formal and informal stuttering terms	
Defining stuttering.....	4
There is no single definition of stuttering	
Dictionary definition	
Internal definition	
Perceptual definition	
Describing stuttering moments.....	7
Taxonomies	
Unambiguous stuttering moments	
A taxonomy	
Stuttering behaviours combine in one stuttering moment	
Some practical examples of describing stuttering	
Distribution of stuttering moments .....	12
The influence of spoken language	
Adaptation, consistency and adjacency	
Identifying stuttering.....	14
Clinical identification of stuttering	
Speech and language disorder comorbidity	
Legal stuttering identification	
Screening for early stuttering	
Theoretical perspectives about stuttering identification	
Disorders to distinguish from stuttering	
An unusual case history	
Guidelines for interacting with those who stutter .....	19
An important topic	
Two caveats about eye contact	
Conditions that reduce or eliminate stuttering.....	20
The fluency inducing conditions	
Verbal response contingent stimulation	
Auditory feedback	
Summary .....	22

## LECTURE TWO: MORE BASIC INFORMATION

How stuttering affects people.....	36
Speech impact	
Quality of life impact	
Occupational impact	
Educational impact	
Stuttering stereotypes	
Anticipation of stuttering	
Social anxiety	
Personality	
Stuttering and genetics.....	43
Background	
Familial incidence	
Twin studies	
Family aggregation studies	
Biological genetic evidence	
A mouse model of stuttering	
Conclusions	
Brain structure and function.....	47
Mounting evidence	
Two current hypotheses	
The critical issue	
Clinical applications of neuroimaging research	
Epidemiology of Stuttering.....	49
Epidemiology	
The value of stuttering epidemiology	
Epidemiology and public health	
Point prevalence of stuttering.....	49
Point prevalence	
Two essential caveats	
Estimates of stuttering point prevalence	
A large data set	
Cumulative incidence of Stuttering.....	51
Cumulative incidence	
Childhood cumulative incidence	
Lifetime cumulative incidence	
Stuttering onset .....	55
Onset occurs during the pre-school years	
Onset can be sudden and severe	
Repeated movements are prominent at onset	
More boys and men are affected than girls and women	
Is stuttering onset predictable?	
Natural recovery from early stuttering .....	57
What is the natural recovery rate?	
Two essential caveats	
Prospective reports of natural recovery beyond the pre-school years	
Prospective reports of natural recovery during the pre-school years	
Is natural recovery predictable?	
Summary .....	61

## LECTURE THREE: THE CAUSE OF STUTTERING

Two reasons causality is clinically important .....	75
Explaining cause to clients and parents	
Treatment credibility and expectancy	
An example of a clinically influential causal theory .....	75
The Diagnosogenic Theory	
The rise	
The fall	
Testing causal theory of stuttering .....	76
Introduction	
Testability of a theory	
Explanatory power of a theory	
Multifactorial models of stuttering causality .....	79
The fundamental proposition	
The Demands and Capacities Model	
Other multifactorial models	
Testability	
Explanatory power	
The future of multifactorial models	
The Interhemispheric Interference Model .....	82
The fundamental proposition	
Testability	
Explanatory power	
The future of the Interhemispheric Interference Model	
The Covert Repair Hypothesis.....	85
The fundamental proposition	
Testability	
Explanatory power	
The future of the Covert Repair Hypothesis	
The EXPLAN Theory.....	88
The fundamental proposition	
Testability	
Explanatory power	
The future of the EXPLAN Theory	
The P&A Model .....	90
Background	
The fundamental proposition	
Testability	
Explanatory power	
Epilogue .....	92
Summary .....	93

## LECTURE FOUR: CLINICAL MEASUREMENT OF STUTTERING

Six reasons for clinical measurement.....	102
Assessment	
Communicating with clients	
Stating treatment goals	
Assessing progress toward treatment goals	
Managing maintenance of treatment gains	
Keeping track of daily stuttering severity changes	
Percentage syllables stuttered (%SS) .....	103
Overview	
Percentage syllables stuttered scores are not normally distributed	
Equipment for percentage syllables stuttered measurement	
Limitations of percentage syllables stuttered	
Severity rating (SR) scales .....	106
Overview	
Equal interval ordinal scales	
Severity rating scores are not normally distributed	
Reliability of severity ratings	
A severity rating scoring guide	
The clinical population as reference	
Advantages of severity ratings	
The relation between %SS and SR.....	110
A strong relationship	
Repeated movements and fixed postures	
Percentile ranks for %SS and SR	
The relation between %SS and SR during treatment	
Syllables per minute (SPM) .....	111
Speech naturalness (NAT) measurement.....	111
Why measure speech naturalness?	
A scale of speech naturalness	
Stuttering-Like Disfluencies.....	112
The Stuttering Severity Instrument (SSI-4).....	112
The Speech Efficiency Score (SES) .....	113
The Overall Assessment of the Speaker's Experience of Stuttering (OASES).....	113
The Wright and Ayre Stuttering Self-Rating Profile (WASSP) .....	113
Simple speech satisfaction scales .....	114
Summary .....	114
Appendix One .....	115
%SS and SR measures during clinical management of a pre-school child	
Appendix Two .....	116
Speech and quality of life measures for stuttering	

## LECTURE FIVE: EVIDENCE-BASED PRACTICE WITH STUTTERING

What is evidence-based practice? .....	121
Speech-language pathology and evidence-based practice .....	121
What evidence-based practice is not.....	121
Not a rulebook	
Not a source of all clinical knowledge	
Not a replacement for common sense	
How to do evidence-based practice .....	122
Step One: Find out what the client needs	
Step Two: Find the relevant evidence	
Step Three: Do the treatment and evaluate its effects	
Scientific standards for clinical evidence .....	124
Peer-reviewed scientific journals	
Hierarchies of evidence	
Detailed methodological critique	
Clinical trials of stuttering treatment .....	125
What is a clinical trial?	
Clinical trial standards	
Phases of clinical trial development .....	127
Phases I to IV	
The CONSORT statement	
Phase I clinical trials	
Phase II clinical trials	
Phase III clinical trials	
Phase IV clinical trials	
Finding stuttering research to inform evidence-based practice .....	131
Finding clinical trials as they are published	
Summary .....	132

## LECTURE SIX: EVIDENCE-BASED EARLY STUTTERING TREATMENTS

Clinical features of early stuttering .....	137
Early intervention with telepractice .....	137
Telepractice	
Advantages of telepractice early stuttering intervention	
Three early stuttering treatments supported by clinical trials.....	138
The Lidcombe Program .....	138
Background	
Overview	
The severity rating (SR) scale	
Percentage syllables stuttered (%SS)	
Parent verbal contingencies	
Some essential things about parent verbal contingencies	
Verbal contingencies during practice sessions	
Verbal contingencies during natural conversations	
Stage 2	
The Lidcombe Program problem solving	
Clinical Strengths and limitations of the Lidcombe Program .....	145
Strengths	
Limitations	
Treatments Based on Multifactorial Models: I. Palin Parent-Child Interaction Therapy .....	146
Background	
Overview	
The treatment process	
Treatments Based on Multifactorial Models: II. RESTART-DCMTreatment .....	150
Background	
Overview	
Assessment	
The treatment process	
Clinical Strengths and Limitations of Treatments Based on Multifactorial Models .....	152
Strengths	
Limitations	
The Westmead Program .....	152
Background	
The treatment process	
Clinical Strengths and Limitations of the Westmead Program.....	154
Strengths	
Limitations	
Summary .....	154
Appendix One .....	155
Lidcombe Program Severity Rating Chart	
Appendix Two .....	156
Common Lidcombe Program problems	

## LECTURE SEVEN: THE EARLY STUTTERING INTERVENTION EVIDENCE BASE

Clinical trials of one treatment.....	160
The Lidcombe Program	
Palin Parent-Child Interaction Therapy	
The Westmead Program	
Clinical trials comparing two treatments.....	163
Lidcombe Program compared to RESTART-DCM Treatment	
Translational research .....	165
The Lidcombe Program	
Randomised clinical experiments.....	166
The Lidcombe Program	
Data-based case studies.....	167
The Lidcombe Program	
A family-focused treatment approach based on a multifactorial model	
Treatment fidelity research.....	168
The Lidcombe Program	
Treatment mechanisms.....	170
The Lidcombe Program	
Treatments based on multifactorial models	
Treatment safety.....	172
The Lidcombe Program	
Treatments based on multifactorial models	
How long does treatment take? .....	172
The Lidcombe Program	
How does a treatment delay affect the treatment process? .....	174
The Lidcombe Program	
Do case variables affect the treatment process?.....	175
The Lidcombe Program	
Parent experiences .....	175
The Lidcombe Program	
The early stuttering intervention evidence base: Summary and conclusions .....	177
The Lidcombe Program	
Treatments based on multifactorial models	
The Westmead Program	

## LECTURE EIGHT: EVIDENCE-BASED ADULT SPEECH TREATMENTS

Speech restructuring treatment.....	185
Background	
A brief history	
Programmed instruction .....	187
A technique for behavioural control	
Performance contingent progression	
A fundamental assumption	
Models of programmed instruction	
An example of programmed instruction	
Instatement and transfer	
The clinical trial evidence for speech restructuring treatment .....	189
Numbers of trials	
Effect size	
Speech naturalness	
Speech restructuring I: The Camperdown Program.....	191
Background	
Stage I: Teaching treatment components	
Stage II: Establishing stutter-free speech	
Stage III: Generalisation	
Stage IV: Maintenance of treatment gains	
Clinical trial evidence for the Camperdown Program	
Speech restructuring II: The Comprehensive Stuttering Program.....	196
Overview	
Clinical trial evidence for the Comprehensive Stuttering Program	
Speech restructuring III: Video self-modelling as a supplement.....	197
The procedure	
Basic research	
A data-based case study of video self-modelling: Relapse management	
A Phase III trial of video self-modelling: Speech restructuring supplement	
A clinical experiment	
A verbal response contingent treatment: Self-imposed time-out .....	200
The procedure	
Clinical advantages	
Clinical trial evidence for self-imposed time-out	
Machine aided treatments.....	201
Background	
Altered auditory feedback	
Modifying phonation intervals	
Transcranial direct current stimulation	
Pharmacological Treatments.....	205
Summary .....	206

## LECTURE NINE: EVIDENCE-BASED ADOLESCENT AND SCHOOL-AGE SPEECH TREATMENTS

Speech restructuring I: Intensive smooth speech .....	213
A Phase II trial	
Results	
Anxiety reduction	
Follow-up	
Speech restructuring II: The Comprehensive Stuttering Program.....	214
A Phase II trial	
Results	
Speech restructuring III: The Camperdown Program.....	215
In-clinic	
Telepractice	
Speech restructuring IV: Video self-modelling as a supplement.....	217
A Phase III trial	
Results	
Verbal response contingent stimulation .....	218
The Lidcombe Program	
Gradual Increase in Length and Complexity of Utterance (GILCU)	
Self-imposed time-out	
Clinician-imposed time-out	
Syllable-timed speech .....	220
Method	
A Phase I trial	
Results	
Hybrid Treatments I: Syllable-timed speech and verbal response contingent stimulation..	221
Method	
A Phase II trial	
Results	
Hybrid Treatments I: DELPHIN Speech Treatment .....	222
Method	
A Phase II trial	
Results	
Machine aided treatments.....	223
Electromyographic (EMG) biofeedback	
Altered Auditory Feedback	
Conclusions about the adolescent and school-age evidence base .....	225
Speech restructuring	
Verbal response contingent stimulation	
Syllable-timed speech	
Machine-aided treatments	
Clinical Notes: Adolescents .....	226
A life transition	
Parents during treatment	
Telepractice and adolescents	
Clinical Notes: School-age children .....	227
A period of changing tractability	
Adaptation of the Lidcombe Program for school-age children	
Teachers and school-age children who stutter	
Summary .....	230

## LECTURE TEN: STUTTERING, SOCIAL ANXIETY, AND MENTAL HEALTH

Background .....	235
A changing view about stuttering and anxiety	
Anxiety .....	235
Expecting harm	
Three components	
Stuttering, anxiety, and anxiety disorders.....	236
Stuttering and anxiety	
Stuttering and social anxiety disorder	
Stuttering and other anxiety related disorders	
The Clark And Wells model of social anxiety disorder .....	239
The puzzle	
The Clark and Wells model	
Three assumptions of the model	
Negative self processing in social situations	
Safety behaviours	
Somatic and cognitive anxiety symptoms	
Before the feared situation	
After the feared situation	
Anxiety impairs speech treatment.....	244
The problem of post-treatment relapse	
Anxiety and post-treatment relapse	
The origins of social anxiety with stuttering: The pre-school years .....	245
Direct evidence: Psychometrics	
Direct evidence: Early childhood temperament	
Indirect evidence	
Conclusions	
The origins of social anxiety with stuttering: The school-age years and adolescence.....	252
Direct evidence	
Indirect evidence	
Conclusions	
Stuttering, mental health, and the timing of early intervention .....	257
Summary .....	257

## LECTURE ELEVEN: TREATMENT OF SOCIAL ANXIETY

Speech-language pathologists and anxiety treatment.....	270
Anxiety measurement for speech-language pathologists .....	270
Background	
The Unhelpful Thoughts and Beliefs About Stuttering (UTBAS) scales	
The Fear of Negative Evaluation (FNE) scale	
Subjective Units of Distress Scale (SUDS)	
The Spence Children's Anxiety Scale	
The Preschool Anxiety Scale Revised	
Evidence-based anxiety treatment for stuttering .....	275
Cognitive Behaviour Therapy (CBT)	
CBT for stuttering: A clinical randomised controlled trial	
Development of standalone Internet CBT for stuttering	
Program design	
Phase I clinical trials of CBTpsych	
A Phase II clinical trial of CBTpsych	
Acceptance and commitment therapy	
Summary .....	286
Appendix One .....	287
The Unhelpful Thoughts and Beliefs About Stuttering (UTBAS) scale	
Appendix Two .....	290
The UTBAS-6 scale	