



Acquired stuttering: differential diagnosis

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Introduction

◆ Stuttering

- "disorders in the rhythm of speech in which the individual knows precisely what he or she wishes to say but at the time is unable to say it because of an involuntary repetition, prolongation or cessation of a sound" (World Health Organization, 1977, p. 202).

Introduction

◆ Stuttering

- Usually considered a developmental disorder
- Onset: in most cases somewhere between the ages of 2 and 5
- The fact that stuttering usually begins in childhood is "one of the few solid bits of information we have about stuttering" (Van Riper, 1971, p. 62).



Introduction

◆ Stuttering

- Developmental stuttering
- Acquired stuttering
 - Onset beyond the typical childhood period

Introduction

◆ Acquired *stuttering*?

- Culatta & Leeper (1988) in a letter to the editors of the JSHD suggested that “the label ‘stuttering’ be restricted to describe that well-defined and researched developmental dysfluency, the causes of which remain unknown.” (p.487).
- Curlee (1995), in a comment pertaining to acquired stuttering of neurogenic origin “... it may not be informative to label such dysfluencies as stuttering until there is better evidence that their superficial similarities have etiologic, diagnostic, or treatment significance”(p. 125).



Introduction

- ◆ Acquired *stuttering*? yes
 - there are at least superficial similarities between developmental stuttering and certain forms of acquired dysfluency

Introduction

- ◆ Acquired stuttering: A particular diagnostic challenge
 - should be distinguished from developmental stuttering
 - should be distinguished from other acquired disorders such as aphasia, apraxia, dysarthria but can also occur concomitant with any of the latter disturbances
 - refers to a variety of disorders with different origin and symptoms that require different therapeutic approaches



Introduction

◆ Purpose:

- To give an overview of the various types of acquired stuttering
- To point out some features that may help in making a differential diagnosis

Some terminology

- ◆ Acquired stuttering
- ◆ Adult onset stuttering?
- ◆ Late onset stuttering?
 - Certain forms of acquired stuttering can occur in children



Different types of acquired stuttering



- ◆ Neurogenic stuttering
- ◆ Psychogenic stuttering
- ◆ Pharmacogenic stuttering
- ◆ Malingered stuttering



Neurogenic Stuttering

Neurogenic stuttering

- ◆ A condition that was recognized already in the 18 th century (Andy and Bhatnagar, 1992)
 - phrenologists Franz J. Gall and J.C. Spurzheim
 - a patient Edward de Rampen aged 26, started to stutter after damage (a sword wound) to the internal posterior part of the anterior lobe of the brain.

Neurogenic stuttering

- ◆ Term “neurogenic stuttering” was probably coined by Canter in 1971
- ◆ Abnormal dysfluency deriving from damage to the central nervous system
- ◆ By far the most common type of acquired stuttering
- ◆ Most often as the result of CVA



Neurogenic stuttering

- ◆ Differential diagnosis with
 - Developmental stuttering
 - Other neurogenic communication disorders

Neurogenic stuttering

- ◆ Neurogenic stuttering versus developmental stuttering
 - Received considerable attention in the literature
 - Mainly important from a research point of view (academically)
 - Clinically usually not a major problem

Neurogenic stuttering

- ◆ Distinctive characteristics? (distinctive from developmental stuttering)
- ◆ No consensus
 - ◆ Typical features on the basis of which this form of stuttering can be distinguished from developmental stuttering (Canter, 1971; Helm, Butler & Canter, 1980)
 - ◆ Others stress the similarities between the two conditions (Inglis, 1979; Lebrun, Leleux, Rousseau & Devreux, 1983; Rosenbek, Messert, Collins, & Wertz, 1978)

Neurogenic stuttering

◆ Canter (1971)

- ◆ Repetitions and prolongations occur on final consonants
- ◆ The distribution of moments of stuttering by phoneme differs substantially from that reported by several investigators including Hahn (1942); in particular, /r/, /l/, and /h/ tend to be foci for increased dysfluency.
- ◆ Dysfluency is not systematically related to grammatical function so that conjunctions and prepositions may cause the speaker as much trouble as nouns or verbs (cf Brown 1937)

Neurogenic stuttering

- ◆ Dysfluency and level of propositionality may be in inverse relationship, such that choric speaking and repetition may be more difficult than oral reading, with self-formulated speech being the easiest task (cf Eisenson and Horowitz, 1945).
- ◆ The adaptation effect is not observed.
- ◆ The speaker may be annoyed by his stuttering, but he does not become anxious about it.
- ◆ Secondary symptomatology does not develop.

Neurogenic stuttering

- ◆ Ringo and Dietrich (1995) (critical review of 79 published cases of neurogenic stuttering)
- ◆ Five features occur more frequently in neurogenic stuttering
 - with foremost the tendency to stutter on function words as well as on lexical words,
 - followed by a relative lack of anxiety about the stuttering
 - a tendency for dysfluencies not to be restricted to initial syllables
 - the absence of secondary symptomatology
 - a failure to exhibit an adaptation effect.

Neurogenic stuttering

- ◆ Ringo and Dietrich (1995)
 - “.. We question the usefulness of several of the proposed differentiating characteristics, and argue that their usefulness could be increased by elaborating and redefining the details of their characterization.” (p. 111)

Neurogenic stuttering

- ◆ Six features of neurogenic stuttering (Lundgren, K., Helm-Estabrooks, N., & Klein, R. (2010).
 1. Dysfluencies occur on grammatical words at a similar rate of occurrence as substantive words,
 2. Repetitions, prolongations, and blocks occur in all positions of words,
 3. There is a consistency in stuttering behavior across speech tasks.
 4. The speaker does not appear overly anxious about the stuttering behavior,
 5. Secondary symptoms such as facial grimacing, fist clenching, and eye blinking are rarely observed,
 6. An adaptation effect is not observed

Neurogenic stuttering

- ◆ It would appear that sufficient level of uncertainty has been raised about the validity of the “six features of neurogenic stuttering” that they should be collectively regarded as a “rule of thumb” rather than pathognomonic indicators of neurogenic stuttering. (pp. 448)

Neurogenic stuttering

- ◆ Apparently the clinical symptomatology alone does not enable one to safely distinguish neurogenic stuttering from developmental stuttering.
- ◆ See also study by Van Borsel and Taillieu (2001)
 - Neurogenic stuttering versus developmental stuttering: An observer judgement study. *Journal of Communication Disorders* ,34, 385-395.

Neurogenic stuttering

■ Procedure:

- Speech samples from four developmental and four neurogenic stutterers were presented, at random, to a panel of professionals
- They were asked them to classify them accordingly, without any patient knowledge

■ Results:

- Almost one fourth of the observers' judgements placed patients in the wrong diagnostic group
- There was a considerable amount of uncertainty about the diagnosis

Neurogenic stuttering

- ◆ However, clinically:
 - Distinction between neurogenic and developmental stuttering is usually not a major problem
 - In addition to the symptomatology, see
 - age of onset
 - circumstances of onset
 - others

Neurogenic stuttering

◆ Age of onset

- Developmental stuttering:
 - Between age 2 to 5
 - Exceptionally beyond the age of 12
- Neurogenic stuttering:
 - Usually beyond the typical childhood period

Neurogenic stuttering

◆ Remark (1)

- Developmental stuttering may manifest for the first time later in life
 - a recurrence of previously existing (childhood) stuttering that the stutterer had outgrown
 - a persons who starts to stutter for the first time in adulthood may have been an interiorized stutterer who under great stress could no longer hide his/her disorder

Neurogenic stuttering

◆ Remark (2)

- Cases of neurogenic stuttering in children do occur
- See for instance
 - Nass, Schreter, and Heier (1994)
 - Chevrie-Muller (1995)
 - Roulet Perez, Gubser-Mercati and Davidoff (1996)

Neurogenic stuttering

◆ Circumstances of onset

■ Neurogenic stuttering

- Usually related to an neurological episode
- Often other neurological signs or symptoms

■ Developmental stuttering

- No neurological episode, signs or symptoms

Neurogenic stuttering

◆ Remark

- Neurogenic stuttering may present as the first symptom (forerunner) of a neurological episode

Neurogenic stuttering

◆ Others

- Developmental stuttering:
 - Often a family history of stuttering
- Neurogenic stuttering:
 - Isolated cases

Neurogenic stuttering

- ◆ Importance of the diagnostic interview!
 - Are there any other neurological signs or symptoms?
 - Was there any neurological episode?
 - Is there a family history of stuttering?
 - Is there a personal history of stuttering?
 - At what age were the present dysfluencies demonstrated for the first time?

Neurogenic stuttering

- ◆ Neurogenic stuttering versus other neurogenic speech language disorders:
 - Aphasia
 - Apraxia of speech
 - Dysarthria

Neurogenic stuttering

- ◆ Is neurogenic stuttering a distinct entity?
 - There are reports of cases with neurogenic stuttering without any co-occurring speech-language disorders (e.g. Grant et al., 1999; Nass et al., 1994)
- ◆ Neurogenic stuttering is a distinct entity

Neurogenic stuttering

◆ Neurogenic stuttering and aphasia?

- Neurogenic stuttering often co-occurs with aphasia
- Neurogenic stuttering can co-occur with different types of aphasia
- In patients with co-morbid aphasia the stuttering frequency tends to be higher (Theys et al., 2011)

Neurogenic stuttering

- ◆ Neurogenic stuttering as a consequence of aphasia?
 - Psychological reaction
 - "is to be considered as an expression of the emotional distress into which the patient comes when he is aware of his aphasic deficit." (Goldstein, 1948, p. 81).

Neurogenic stuttering

- Neurogenic stuttering does not always co-occur with aphasia
 - in some patients stuttering precedes the aphasia
 - isolated stuttering may occur as

Neurogenic stuttering

- ◆ Neurogenic stuttering as a core aspect, a component of aphasia?
 - Stutter like dysfluencies may occur as the result of
 - ◆ Word-finding problems in certain types of aphasia (dysnomic stuttering; Canter, 1971)
 - Non-verbal behavior in word-finding problems
 - ◆ Conduite d'approche in conduction aphasia
 - deliberate repetitions, self-corrections

Neurogenic stuttering

- ◆ Neurogenic stuttering and apraxia of speech?
 - Neurogenic stuttering is a form of apraxia of speech (Schiller, 1947; Shtremel, 1963; Caplan, 1972)
 - Canter (1971) “apraxic stuttering” as a subtype of neurogenic stuttering

Neurogenic stuttering

■ Canter (1971)

- ◆ would result from damage to the brain centres concerned with motor programming
- ◆ would tend to occur as the individual re-approaches the initial sound of a word in his attempt to "zero in" on the correct sound
- ◆ the apraxic speaker would sometimes experience silent speech blocks because of his impairment in voluntarily triggering the motor speech mechanism.

Neurogenic stuttering

- ◆ “... it remains unclear whether acquired stuttering is a distinct disorder or an epiphenomenon of other motor speech disorders such as apraxia of speech.” (Lundgren, Helm-Estabrooks, & Klein, 2010, pp. 448)

Neurogenic stuttering

- ◆ The repetitions
 - in apraxia of speech: deliberate in nature
 - in neurogenic stuttering: involuntary
- ◆ Therefore:
 - we do not consider the dysfluent speech of apraxic patients as a variety of neurogenic stuttering.

Neurogenic stuttering

- ◆ Neurogenic stuttering and dysarthria?
 - Neurogenic stuttering can co-occur with dysarthria
 - The frequency of stuttering is not higher in patients with co-occurring dysarthria (Theys et al., 2011)

Neurogenic stuttering

- Canter (1971): “dysarthric stuttering” as a subtype of neurogenic stuttering
- Cerebellar: ataxic dysarthria (prolongations, hard articulatory contacts, repetitions???)
- Parkinson’s disease
 - palilalia

Neurogenic stuttering

◆ Palilalia

- ◆ first referred to in the 19th century by De Renzi (1879) and Brissaud (1899), who called it respectively ‘catafasia’ and ‘autoecholalie’.
- ◆ The term ‘palilalie’ derives from Greek (‘pali’ meaning ‘again’ and ‘lali’ meaning ‘language’) and was coined by Souques in 1908.
- ◆ Souques defined palilalia as *an involuntary and spontaneous repetition of the same word or phrase two or more times in a row*

Neurogenic stuttering

◆ Palilalia

- ◆ has been reported most frequently in patients with postencephalitic parkinsonism and patients with pseudobulbar palsy
- ◆ has also been observed in association with several other disorders and conditions.
 - Gilles de la Tourette syndrome, Pick's disease, Alzheimer's disease, traumatic lesions of the basal ganglia, paramedian thalamic and midbrain infarcts, idiopathic cerebral calcinosis, as a symptom of levo-dopa induced hyperkinesia in Parkinson's disease, and in association with epilepsy (Garcia, 1990).

An example: “sigaar” (cigar)



sigaar.wav

Neurogenic stuttering

◆ Neurogenic stuttering versus palilalia

■ Palilalia

- ◆ usually affect longer fragments (words, and even whole phrases)
- ◆ the number of times a fragment is repeated also tends to be larger (even up to 50)
- ◆ primarily the final words or phrases of sentences that are repeated
- ◆ the last repetitions in palilalia are often aphonic

Neurogenic stuttering

- Palilalia is a fluency disorder of neurogenic origin
- Palilalia is clearly a type of fluency disorder with a distinct pattern
- Perhaps to consider a specific subtype of neurogenic stuttering?

Neurogenic stuttering

- ◆ Neurogenic stuttering versus other neurogenic speech language disorders:
- ◆ Conclusion
 - Neurogenic stuttering can co-occur with aphasia, apraxia or dysarthria but can and should be distinguished from these disorders.

Neurogenic stuttering

- ◆ Subtypes of neurogenic stuttering?
 - According to the underlying neurological condition
 - According to the lesion site

Neurogenic stuttering

- According to the underlying neurological condition
 - ◆ De Nil, Rochon & Jokel (2009)
 - Characteristics of neurogenic stuttering may depend on the neurological condition that led to the stuttering
 - ◆ syllable and word repetitions: more frequently following stroke
 - ◆ prolongations and blocks: more common following neurodegenerative disease

Neurogenic stuttering

- According to the lesion site
- neurogenic stuttering is not linked to any specific lesion site
 - unilateral or bilateral
 - focal or diffuse
 - cortical or subcortical
 - right hemisphere or left hemisphere.
 - frontal, temporal, parietal, occipital lobe.

Neurogenic stuttering

- ◆ Theys et al. 2011
 - voxel based lesion symptom mapping
 - 20 stroke patients with neurogenic stuttering
 - stuttering in stroke induced neurogenic stuttering is not related to a dysfunction in one specific brain area
 - can occur with lesions throughout the cortico-basal ganglia-cortical network

Neurogenic stuttering

- ◆ Should this mean that neurogenic stuttering has no (localizing) diagnostic significance at all?
 - Still the possibility that within neurogenic stuttering the symptoms vary according to the lesion site (different types of neurogenic stuttering)
 - (compare with aphasia and dysarthria)

Neurogenic stuttering

◆ Some proposals (1)

■ Mesiofrontal lesions (Ackermann, Hertrich, Ziegler, Bitzer, & Bien, 1996)

- dysfluencies restricted to word-initial sounds
- no dysfluencies during repetition tasks and reading aloud

- ◆ But see Van Borsel, Van Lierde, Van Cauwenberge, Guldemont and Van Orshoven (1998)

Neurogenic stuttering

- ◆ Some proposals (2)
 - Extrapyramidal lesions (Koller, 1983)
 - less frequent occurrence of dysfluencies in choral and repetitive speech
 - more frequent presence of an adaptation effect
 - ◆ But see Hertrich, Ackermann, Ziegler and Kaschel (1993)

Neurogenic stuttering

- ◆ Some proposals (3)
- ◆ Thalamic lesions (Van Borsel, Van Der Made & Santens, 2003)
 - more dysfluency in more propositional speech

Neurogenic stuttering

- ◆ Subtypes of neurogenic stuttering?
- ◆ Conclusion
 - Distinguishing and diagnosing further subtypes within neurogenic stuttering may be premature
 - More research necessary

Neurogenic stuttering

- ◆ Terminology: “*neurogenic* stuttering”
 - cortical stuttering
 - suggests that the causal lesion is always situated in the cerebral cortex
 - aphasic stuttering
 - suggest that neurogenic stuttering always co-occurs with an aphasia

Neurogenic stuttering

- ◆ Neurogenic stuttering:
 - More and more evidence that developmental stuttering has a neurological base
 - All stuttering is neurogenic
 - “neurogenic stuttering”: pleonastic
 - No differentiation any more between acquired (neurogenic) stuttering and developmental stuttering
 - Alternative terminology: SAAND

Neurogenic stuttering

◆ SAAND:

- "Stuttering refers to disorders in the rhythm of speech in which the individual knows precisely what he or she wishes to say but at the time is unable to say it because of an involuntary repetition, prolongation or cessation of a sound. When this behavior first occurs, notably worsens, or recurs in the presence of acquired neurological problems, it is diagnosed as stuttering associated with acquired neurological disorders (SAAND)." (Helm-Estabrooks, 1993, p. 207).

Neurogenic stuttering

◆ SAAND

- elaborates the definition of (developmental) stuttering of the World Health Organization
- encompasses not only stuttering that occurs for the first time subsequently to brain damage but also the condition in which existing childhood stuttering worsens due to brain damage and the condition in which pre-existing stuttering that had disappeared recurs following brain damage

Neurogenic stuttering

- ◆ recurrence or aggravation of the pre-existing dysfluency
 - a patient with a history of developmental stuttering suffers brain damage in adulthood and as a consequence of the damage shows more or again dysfluencies

Neurogenic stuttering

- ◆ A more complex and unique situation
 - Not really acquired stuttering
 - there is a history of developmental stuttering
- ◆ Not really developmental stuttering
 - if the patient had not suffered brain damage his speech would not have looked the way it does

Neurogenic stuttering

- ◆ Aggravation or recurrence of pre-existing stuttering
 - has not been studied systematically
 - cases of brain damage in developmental stutterers are very interesting
 - they may provide clues to the mechanism underlying developmental stuttering

Neurogenic stuttering

◆ From a literature review

- occurs most often consequent upon a cerebrovascular accident resulting in a unilateral lesion
- the stuttering is sometimes but not always concomitant with aphasia
- most often sets in concurrently with the neurological episode
- very often the stuttering is persistent
- all cases reported to date were male victims.

Neurogenic stuttering

◆ Remark

- brain damage may apparently change a developmental stutterer's dysfluency in two directions.
 - cause a developmental dysfluency to reappear or aggravate
 - or on the contrary alleviate or abolish the stutter
 - ◆ Some reports of developmental stutterers who became, at least temporarily, more fluent after a brain lesion.



Psychogenic Stuttering

Psychogenic stuttering

- ◆ Stuttering that finds its origin in psychological or emotional problems
- ◆ Already described in 1922 by Henry Head
- ◆ Has also been called “hysterical stuttering”
 - Bluemel (1935), Freud (1966)

Psychogenic stuttering

- ◆ Mahr and Leith (1982)
 - psychogenic stuttering is best classified as a conversion reaction
 - (i.e. an alteration in physical functioning that suggests a physical disorder but is an expression of psychological conflict)

Psychogenic stuttering

◆ Characteristics (Deal, 1982)

- Onset is sudden and temporally related to a significant event.
- Primarily repetition of initial or stressed syllables, little affected by choral reading, white noise, initial trial of feedback, singing, or different speaking situations.
- Initially no islands of fluency

Psychogenic stuttering

- The patient expresses no interest in his or her stuttering.
- No secondary symptoms, avoidance behaviour or attempts to inhibit the stuttering.
- The same pattern of repetition is manifested during mimed reading aloud as in conversational speech.

Psychogenic stuttering

◆ Roth, Aronson & Davis (1989)

1. The disorder is manifest via the voluntary motor system (articulation and phonation)
2. Bizarre quality of dysfluencies and secondary behaviors
3. History of stress prior to the onset of the stuttering behavior
4. No permanent organic changes,
5. History of multiple somatic complaints,



Psychogenic stuttering

6. Presence of primary or secondary gains
7. A symbolic significance to the current disorder
8. Previous exposure to someone with a neurological disease
9. The presence of “la belle difference.”

Psychogenic stuttering

- ◆ Baumgartner and Duffy (1997) (retrospective study)
 - No specific age of onset but most often before the age of 60 years
 - Men affected as often as women
 - Patients with psychogenic stuttering do not differ from the general population as to educational level or hand preference.

Psychogenic stuttering

- ◆ Differential diagnosis
 - Not always easy
 - Especially the differentiation between psychogenic stuttering and neurogenic stuttering may be difficult
 - Psychogenic stuttering may occur in patients with a neurological disorder.
 - Is the neurologic disorder is at the origin of the dysfluency or simply comorbidity?

Psychogenic stuttering

- ◆ Baumgartner and Duffy (1997)
- ◆ psychogenic stuttering
 - quite common in people with degenerative conditions, seizure disorders, and closed head injury.
 - less frequent in patients with aphasia, apraxia of speech, or dysarthria Anyhow: the presence of neuropathology does not exclude a diagnosis of psychogenic stuttering.



Psychogenic stuttering

- The presence of neuropathology does not exclude a diagnosis of psychogenic stuttering.
- On the other hand, absence of any neuropathology is of course an important sign that one may have to do with psychogenic stuttering.

Psychogenic stuttering

- ◆ Other indications of a possible psychogenic origin
 - The presence or a history of psychiatric disorders
 - The presence of struggle behavior unrelated to speech production yielding the impression of “bizarre” speech. (motor patterns that are not usually seen in any other speech disorder)
 - The observation that the stuttering worsens as the patient is given less difficult speech tasks

Psychogenic stuttering

- ◆ The most convincing support for a psychogenic diagnosis: symptom reversibility.
 - Not unusual to find a dramatic improvement in fluency or even return to normal speech in response to behaviour therapy after only two sessions or already during the diagnostic session

Psychogenic stuttering

■ But!

- The absence of a rapid and dramatic response to behaviour therapy should not be interpreted as a proof that the stuttering is not of psychogenic origin.
- Not all patients with psychogenic stuttering respond rapidly and dramatically to behaviour therapy.



Pharmacogenic Stuttering



Pharmacogenic stuttering

- ◆ Stuttering that originates as a side-effect of the use of medication
- ◆ Also called “drug induced stuttering”

Pharmacogenic stuttering

- ◆ Is it a distinct form of acquired stuttering?
 - By some classified under “neurogenic stuttering” (see for instance brochure of Stuttering Foundation of America)
 - In our opinion: better to consider as a different type of acquired stuttering



Pharmacogenic stuttering

- ◆ Different cause
- ◆ Different diagnosis
- ◆ Different intervention

Pharmacogenic stuttering

- ◆ Types of drugs that can elicit stuttering
 - Psychopharmaca
 - Anticonvulsants
 - broncho dilatator theophylline

Pharmacogenic stuttering

- ◆ Diagnosis (in collaboration with physician)
 - Reconstruction of drug history (past and recent)
 - Change medication
 - Temporarily withhold the drug
 - Replace by other drug
 - Vary the dosis

Pharmacogenic stuttering

- ◆ Symptomatology according to type of drug
 - Difficult to discern general patterns
 - Drugs belonging to the same pharmacological group or even one and the same drug may entail different symptoms in different patients.
 - drugs elicit mainly primary stutter symptoms (repetitions, prolongations, blocks) with repetitions being the most frequent symptom



Malingered Stuttering

Malingered stuttering

◆ Malingering/ feigning

- “when a person is faking symptoms of an illness or incapacity, usually for purposes of personal gain.”
(Seery, 2005)
- personal gain (Morrison, 1995)
 - ◆ obtaining something desirable (money, drugs, insurance settlement)
 - ◆ avoiding something unpleasant (punishment, work, military service, jury duty)

Malingered stuttering

- ◆ Malingered stuttering
 - an individual exhibits dysfluencies with the purpose of some gain
 - an individual intentionally produces the dysfluencies in order to make his interlocutor believe that he is a stutterer

Malingered stuttering

- ◆ Malingered stuttering versus Psychogenic stuttering.
 - In psychogenic stuttering
 - the individual *involuntarily* produces symptoms that are not ‘real’
 - Deceives not only his interlocutor but also himself.

Malingered stuttering

◆ Malingering

- Pure: all the symptoms exhibited are falsified.
- Partial (also called aggravation): existing symptoms are exaggerated for purposes of personal gain.

Malingered stuttering

- ◆ A rare condition, reported only a few times in the literature
- ◆ In each of these cases in a forensic context
 - Shirkey (1987)
 - Bloodstein (1988)
 - Seery (2005)

Malingered stuttering

- ◆ Differential diagnosis
 - establishing positive evidence of malingering may be difficult
 - a satisfactory means of detecting malingering in stuttering remains to be found

Malingered stuttering

- ◆ Differential diagnosis (Shirkey, 1987)
 - speech assessment under varying conditions
 - covert audio recordings (if permissible)
 - polygraph (“lie detector”) testing
 - independent testimony (e.g., relatives, guards), school and medical records related to speech fluency
 - data regarding speech characteristics
 - observation of speech in conditions that usually yield fluency

Malingered stuttering

- ◆ Islands of fluency?
 - Stuttering is inherently variable (compare difference with faking a limp)
 - Absence of islands of fluency: No proof of malingering (see neurogenic and psychogenic stuttering)

Malingered stuttering

- ◆ Distribution of dysfluencies ?
- ◆ Likeness to developmental stuttering:
 - depends on the extent to which the individual has an awareness of what to imitate
 - But! abnormal, bizarre patterns are no proof of malingering (see psychogenic stuttering)

Malingered stuttering

- ◆ Affective reactions to speaking/stuttering?
 - Absence is no proof of malingering (see psychogenic stuttering)



Malingered stuttering

- ◆ Diagnosing malingered stuttering?

a particular challenge



Conclusion

STUTTERING

- NOT A UNITARY DISORDER

Illustrations



Pauwels deel 2.wmv



stuttering vrouw.wmv



Verstraeten Iris.wmv





