



CAPD Forum



Diagnosis

March 13, 2015



Welcome



9:00 – 9:15



Thanks for Coming!

- Atlanta April 2014 Christa told me the group's idea of this meeting to:
 - Advance CAPD with the public, profession etc.
 - Recommend a battery of tests & therapy procedures
 - Share our approaches for diagnosis & rehabilitation
- Kavita chosen-accepted to be in charge
 - what, where, who, how
- The committee is Kavita Kaul, Christa Reeves, Vickie Hamilton & Sarah Zlomke volunteered to host & I to advise

Fortunately Kavita Enticed

- Jay Lucker to attend and present
- Jay involved with CAPD for over 30 years
- His insightful observations led to ORG category: SSW reversal; disorganized etc. individuals
- Katie Teague & Alice Cerkoney TBI long distance
- Dee Hightower volunteered to present for them
- We also have others who attended the Advanced (Advanced) SSW-CAPD Workshop (Atlanta) thanks!

Last but Not Least

- Our group from East, West, South, Midwest & MO-Kan with interest in Buffalo Model
- We're Audiologists & SLPs plus
- **5 top-notch AuD students from KU** who have volunteered & helped
- All of us are involved & fascinated with CAPD
- As a group we hope to study together.
- If we can't resolve some issues then who can???
- Thank you all for coming & willingness to work together!



DOM and DOT



9:45 – 10:30



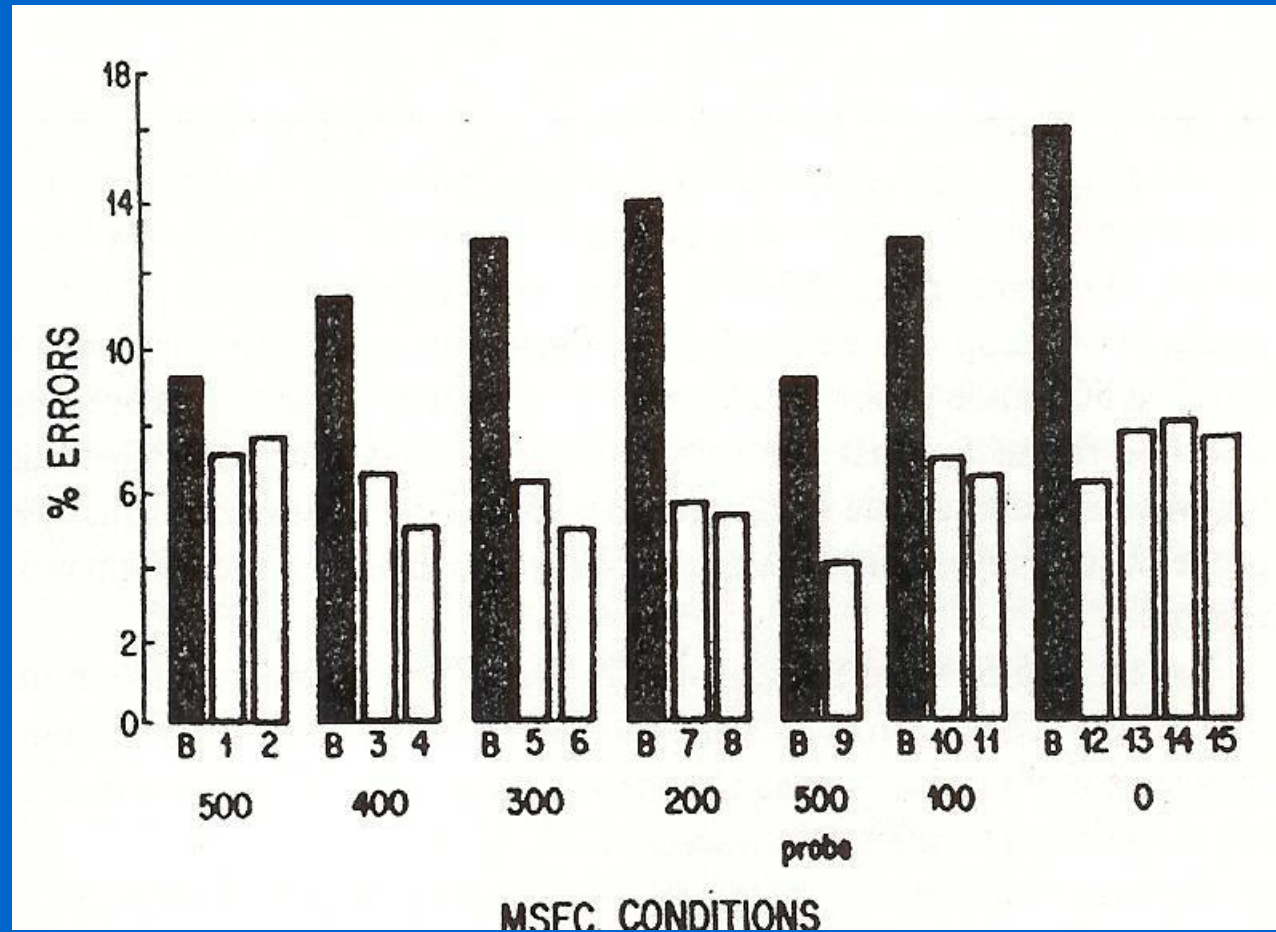
Initial Dichotic Training 1983

1. To improve dichotic listening
2. Start with easy offset (dichotic digits) 500 ms
3. Gradually move to hardest offset 0 ms in 15 sess
4. SSW demonstrated problem, 10 kids with Type-A
5. n=5 therapy & 5 no therapy
6. DOT used remediate dichotic problem @8 offsets
7. Determine initial challenge @6 offsets on DOM

Chertoff Dichotic Training Thesis*

B= Baseline DOM
#s 1-15 Sessions
2nd 500= Probe

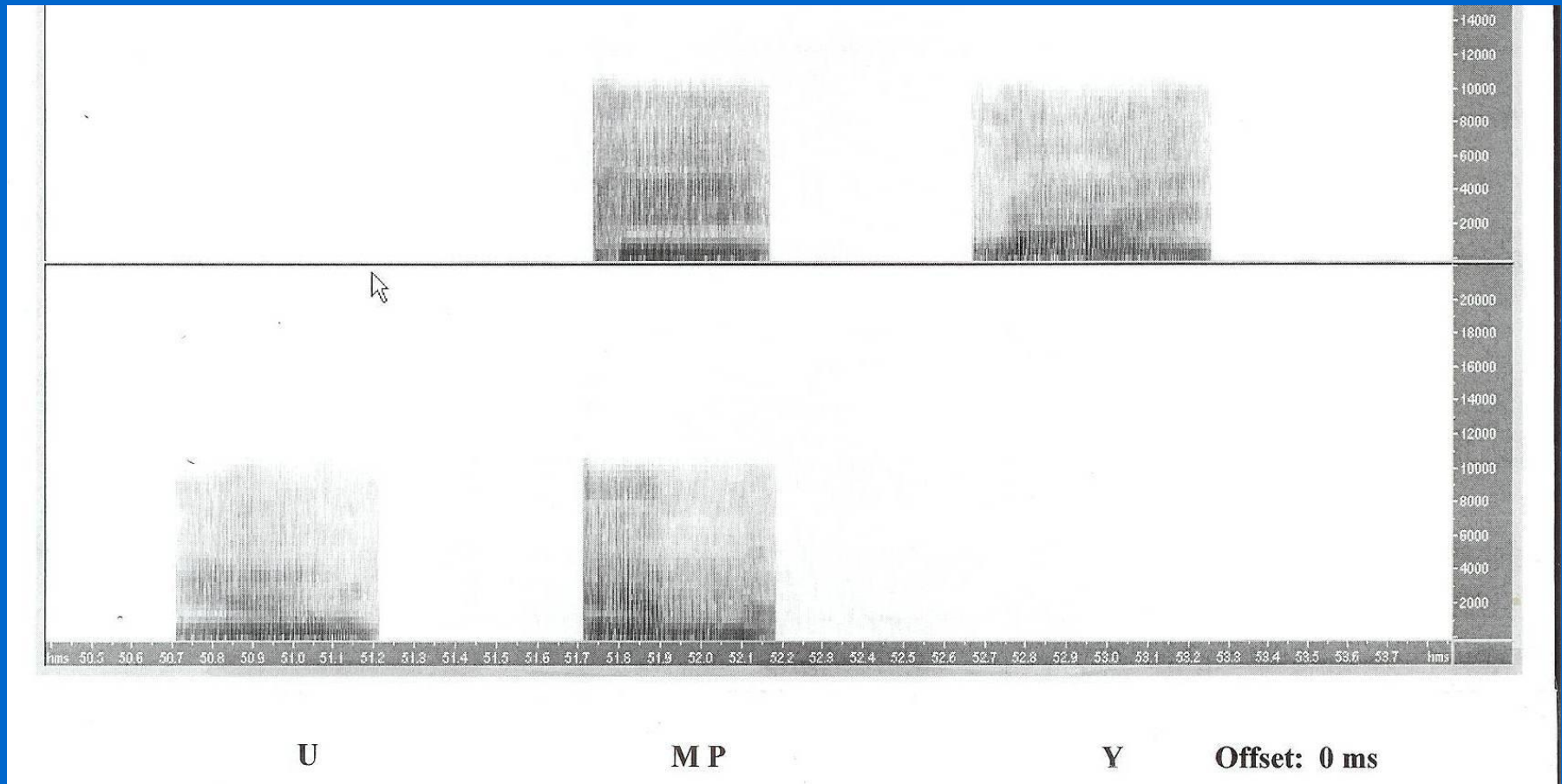
20 yrs later realized
need for new DOT
& DOM (use letters
of alphabet)



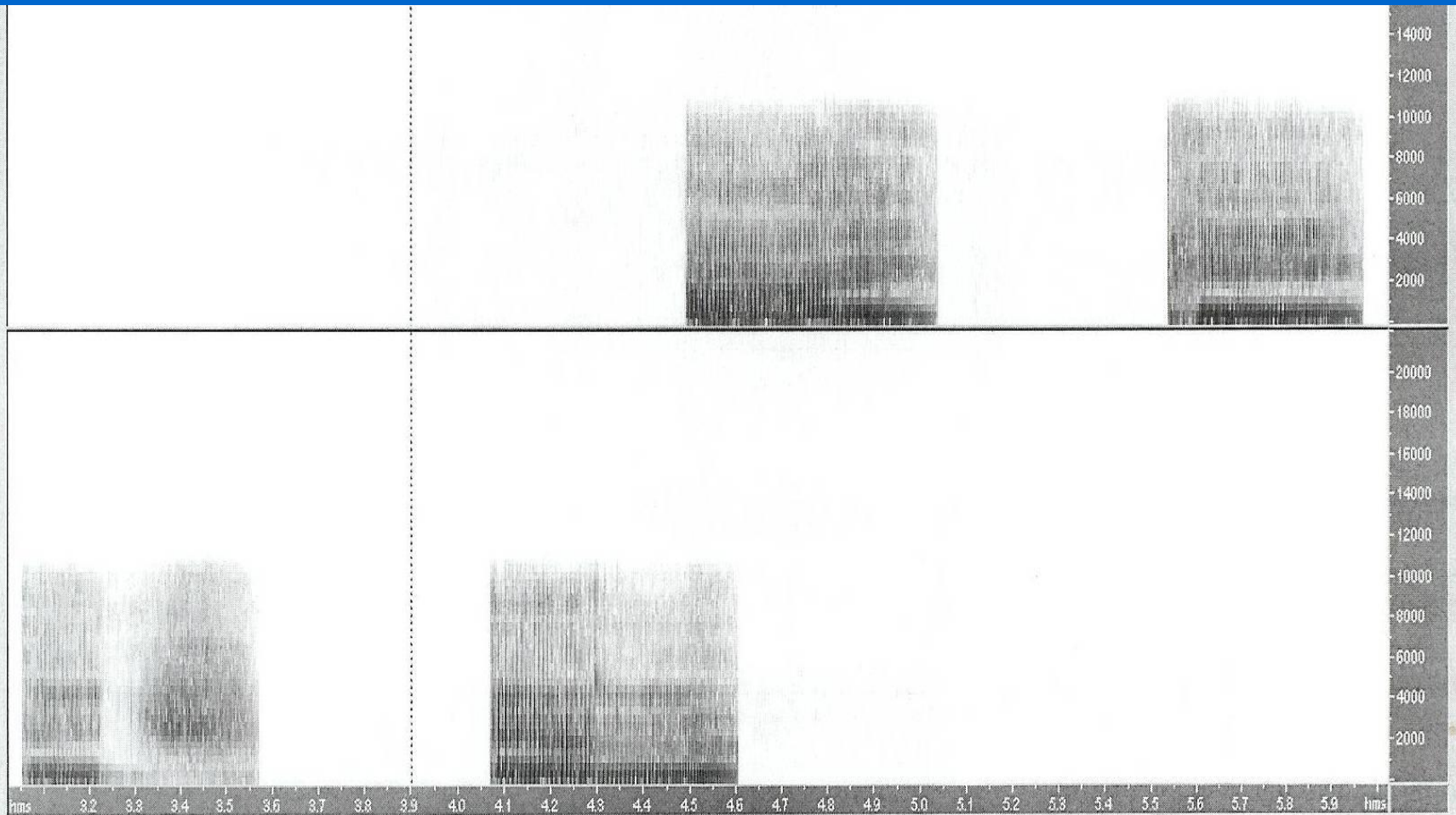
Katz, Chertoff & Sawusch. Dichotic Training. J. Aud. Res., 24, 251-264

DOM 0-ms Offset

- Test (& therapy) materials follow the SSW pattern
- The competing letters are perceptually centered



DOM 400-ms Offset



H

N

I

P

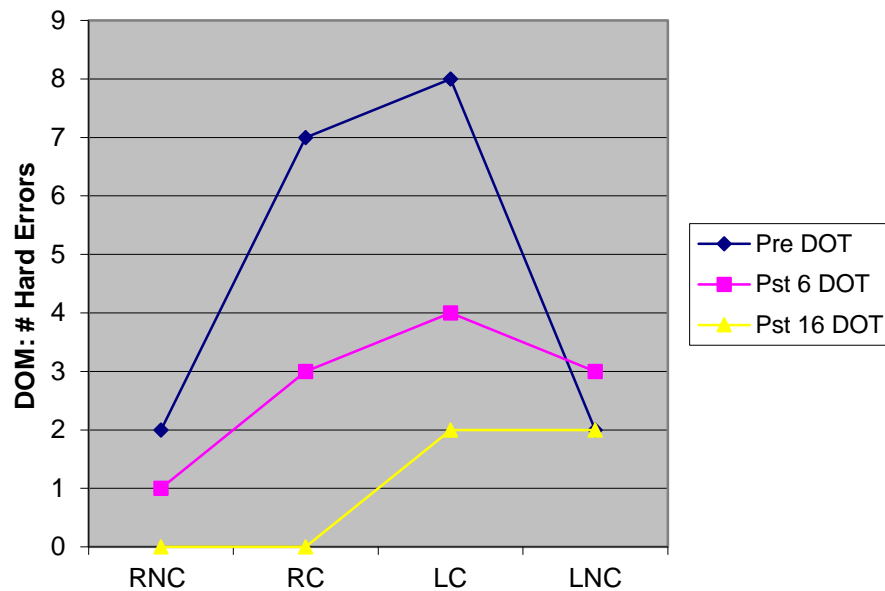
Offset: 400 ms

When I Report On Cases

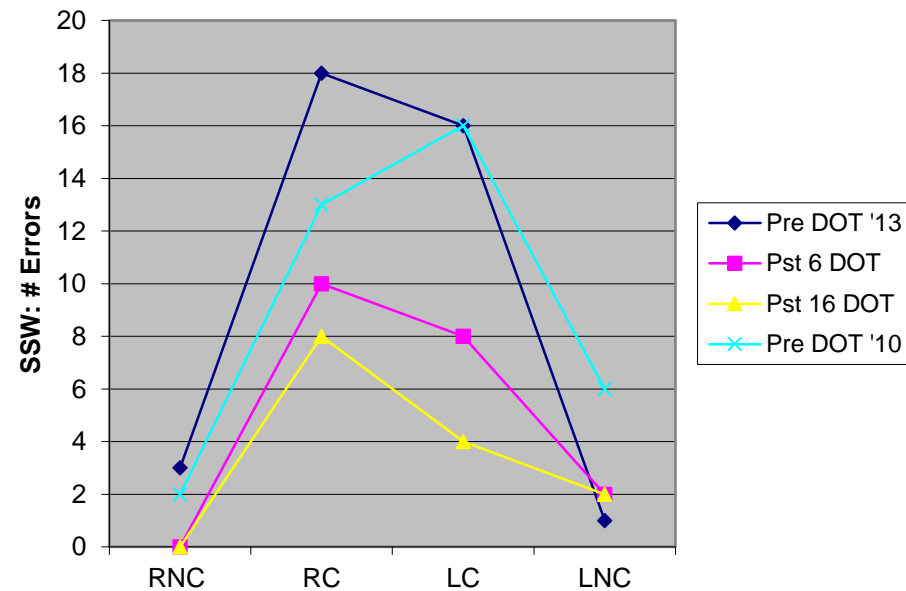
- Or put together group data I grab closest folders and hope for the best.
- This kid I will see tomorrow who turned out to be a very good illustration!
- *HZ* was first seen in 2010 when his out-of-state school was doing nothing for him (he needed a lot)
 - He was tested at 11y. Family moved to KC 3-yrs later
 - Till now I tested SSW 4 times: 37, 38 (DOT) 20, (DOT) 14
 - DOM 3s: just before therapy 38 (DOT) 20, (DOT) 12
- Scouts Honor – SSW=DOM is not typical
- Here are the details

DOM & SSW

- (Left) DOM very poor for 14yrs (+13SD), after 6 therapy sessions much improved (+6SD), after 16 sessions (+3SD)
- (Right) SSW @14 yrs (+19SD), after 6 sessions (+9SD), after 16 (5SD) - before therapy SSW was = 3 yrs before!
- In Round-3 we will do some more DOT



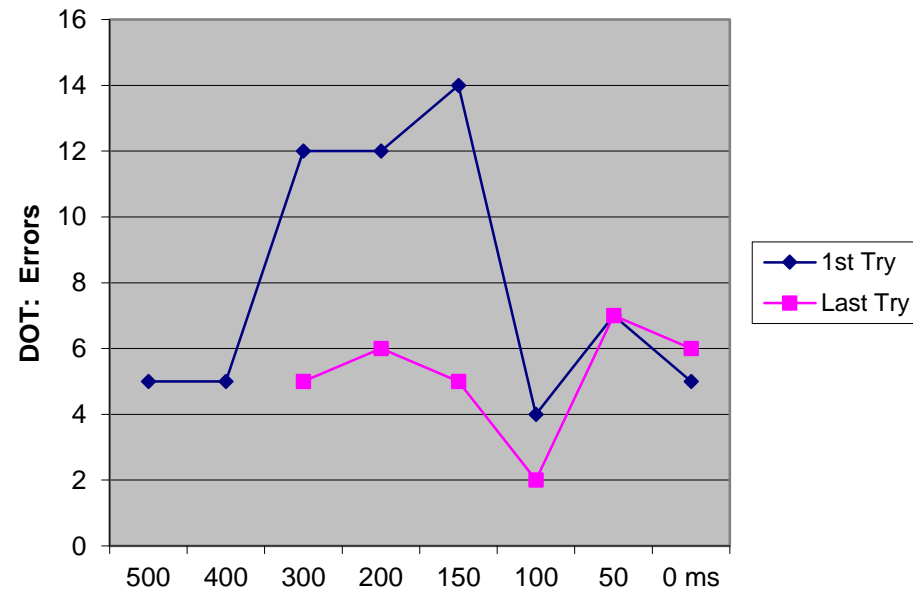
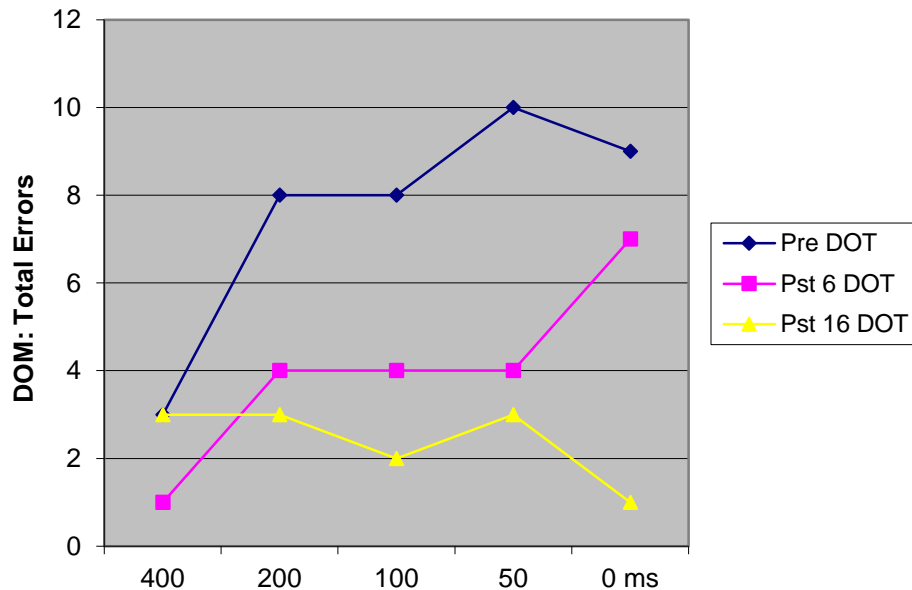
DOM



SSW

Offset Errors for DOM & DOT

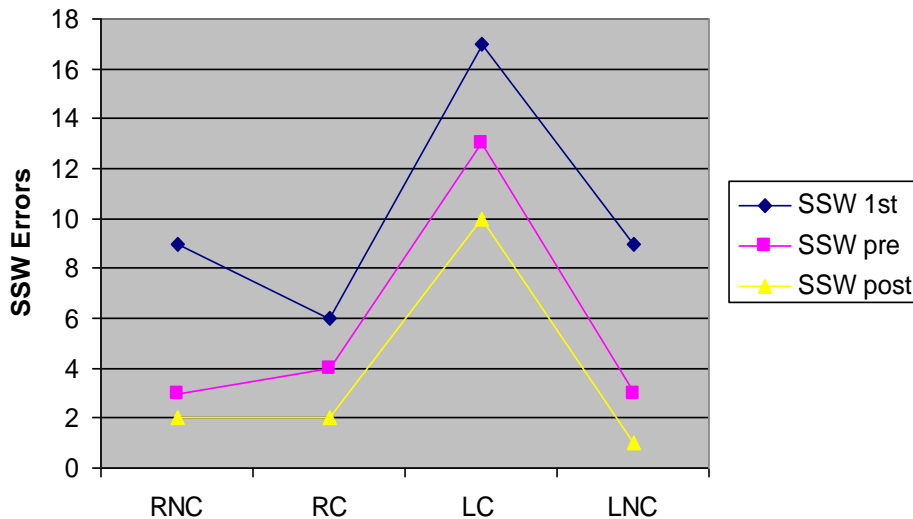
- (Lt) Initial DOM - would suspect (~400 & 500ms) easy
- 200-100ms hard & 50-0 very hard
- (Rt) Similar to what we found to 150ms except for training effect perhaps (100-0 ms)
- Will see in this round what further training can do.



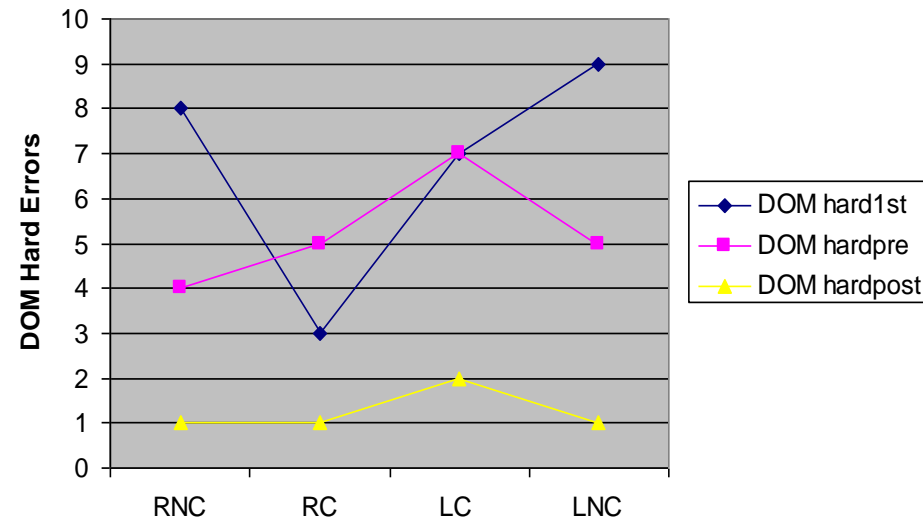
Another Kid w/ Type-A – 9 yrs old

- Initial Test, then therapy elsewhere (note DOM LC pre-test ↓)
- Pre Test here, then 10 sessions of DOT
- Post Test

SSW

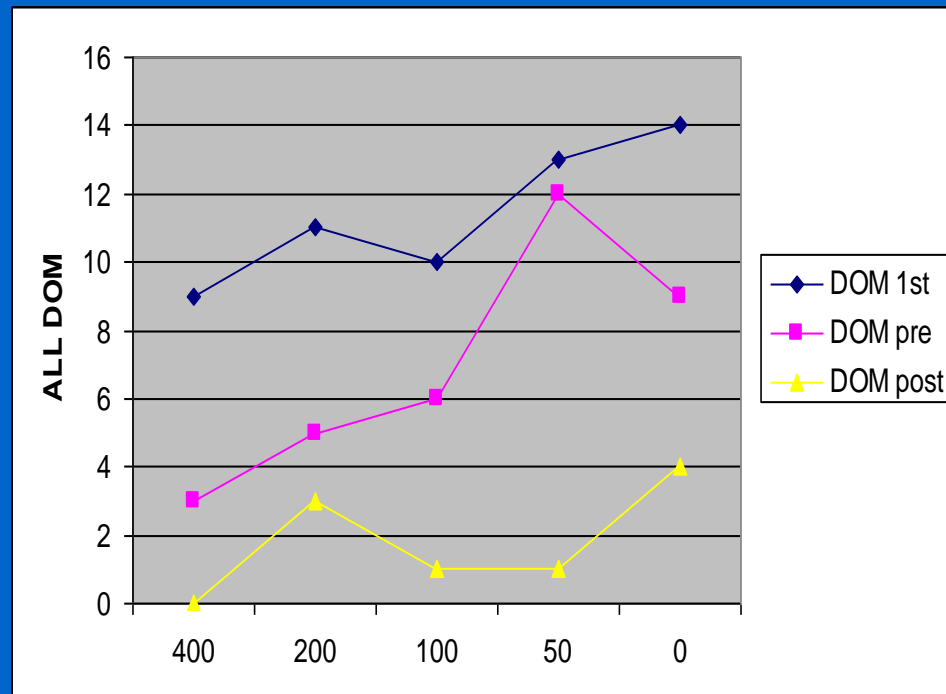


DOM-Hard



Same Youngster – DOM Offsets

- 1st: Looks like offset effect (400-0 ms)
- Pre: No dichotic therapy- 50ms least improvement
- Post: Everything improves

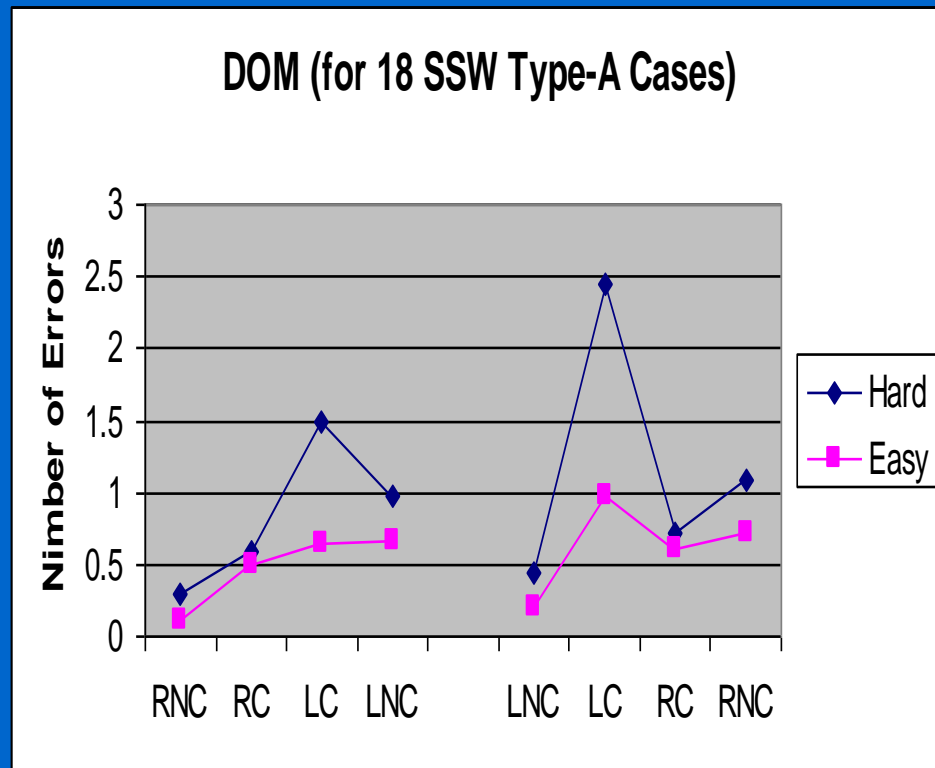
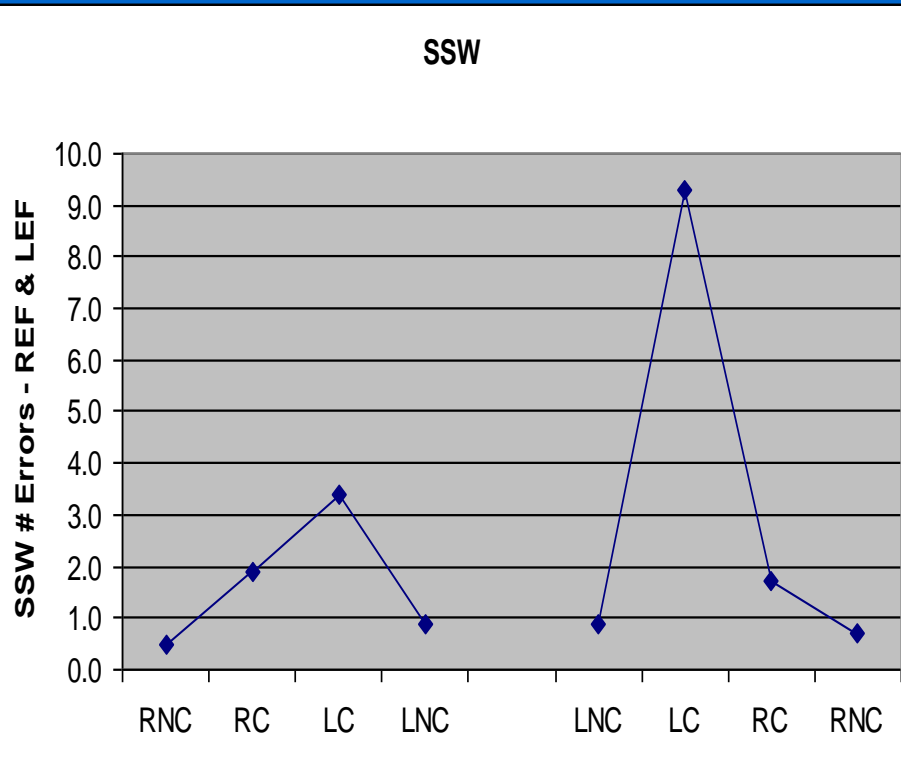


DOM

- DOM developed for pre DOT planning & post DOT assessment
- But could serve to support or expand SSW
 - ? Expand: give info re CNS delays
 - Slightly different CANS challenge & increase hit-rate
 - ?Support: Type-A, reversals, DEC, Memory
 - Group data about Type-A look good so far (no norms yet)
 - Measure of timing challenge (not given by SSW)
- Hard items (0 & 50ms), Easy (400 & 200ms), 100 not shown

SSW Type A Group (n=18)

Overall, more SSW errors vs. DOM for this group, but
Similar patterns for 2-tests (not so for all individuals)



But, SSW=40 items & Hard=20. But even 2 x Hard...

Have Plans to Reduce DOM

- Currently DOM 50 items, but takes too long
- Plan to reduce items to 40



Otitis Media & What it Sounds Like



4:15 – 5:00



Otitis Media

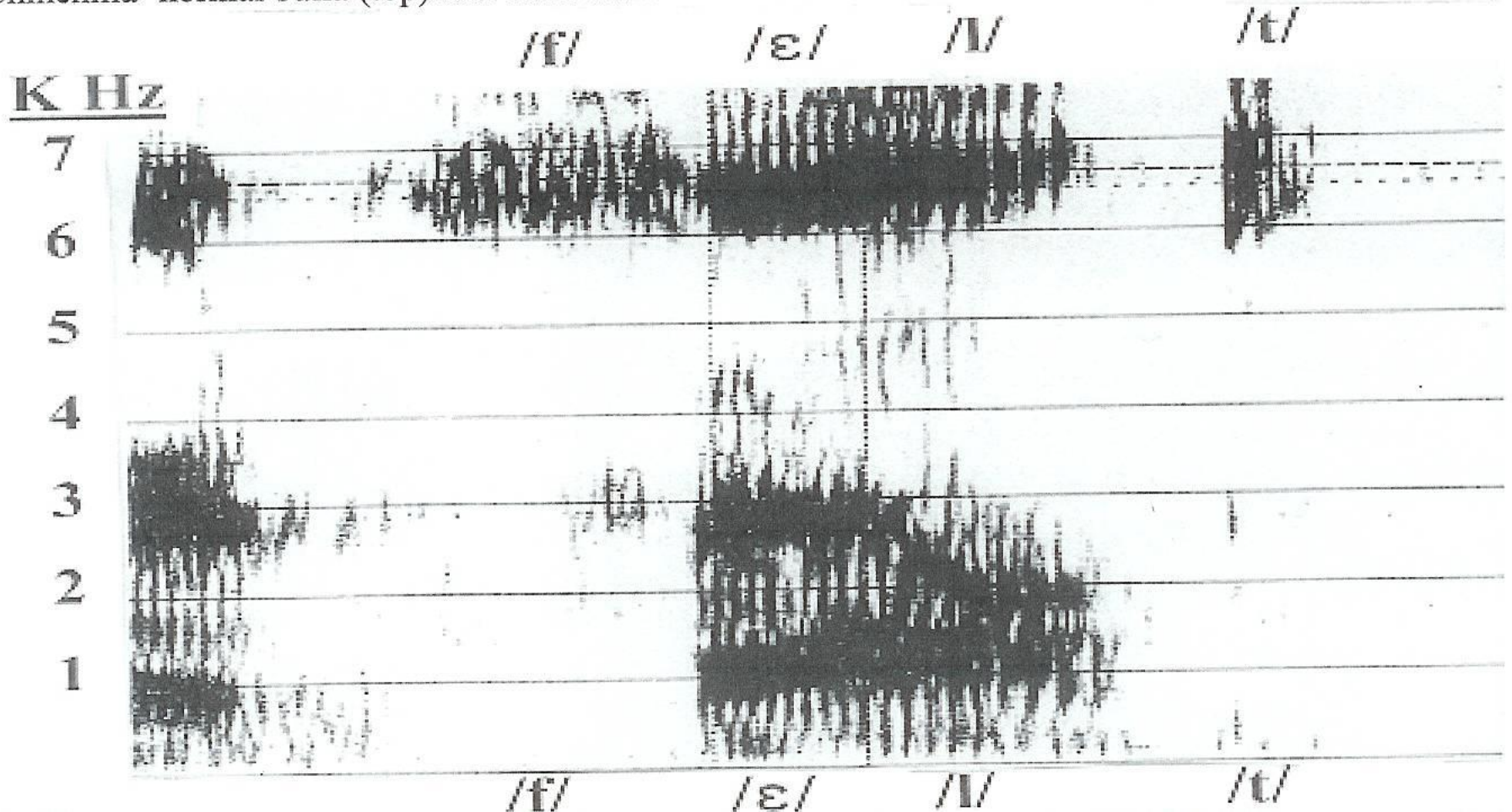
- M. Downs: Loss 15dB significant; C. Berlin 10dB
(Is hearing still being screened at 20dB in the schools?)
- Downs: First 3 months most serious, to 3 years important
- Pediatricians indicate: Start in first 3 mo often 'otitis prone'
- Supposed to outgrow O.M. by 8 or 9 but not in kids I see
- Usually starts in one ear then may involve the other ear
- Holm & Kunze match 16 pairs of children w/ early OM/ctl
 - 3 language/processing tests all significantly poorer for OM
- Shriberg & Smith Initial (-/h/?)/Nasal (m/n) Consonant Change

What Does OM Sound Like to Cause...

- Most people don't know when they have OM
 - Comes on gradually & they are used to it all their lives
 - Auditory system developed to deal w/ it & variations
- Calm, easy going don't complain, others might
- Let's see why...
- Katz & Boetcher did a study with animals w/ & w/o middle ear fluid
- W-22 words presented by loudspeaker 1' from ear
- Then level adjusted for mineral oil & present again

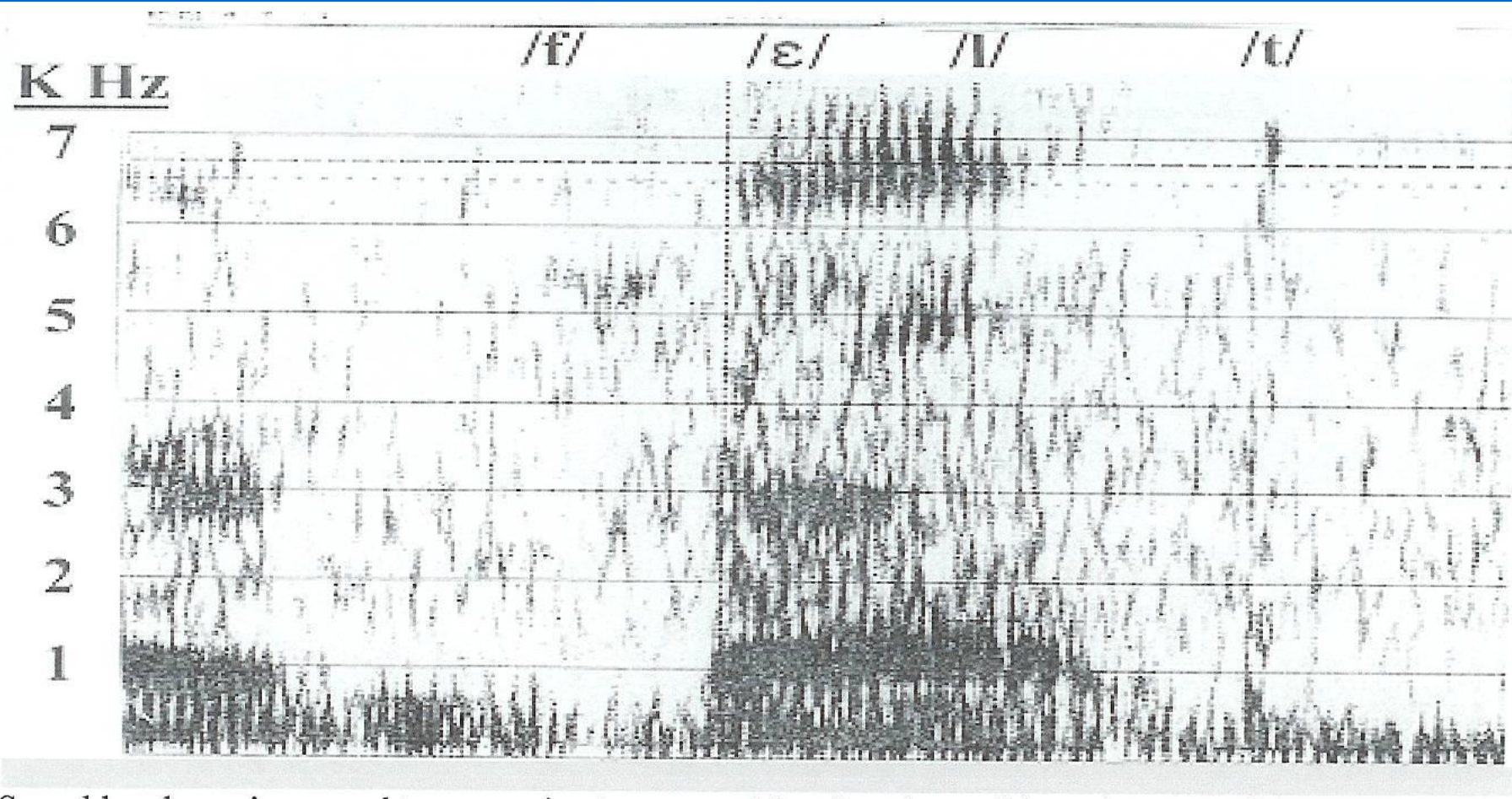
W-22 Cochlear Microphonic Recording

Chinchilla- normal bulla (top) and bulla filled with mineral oil to simulate middle ear fluid (bottom).



word

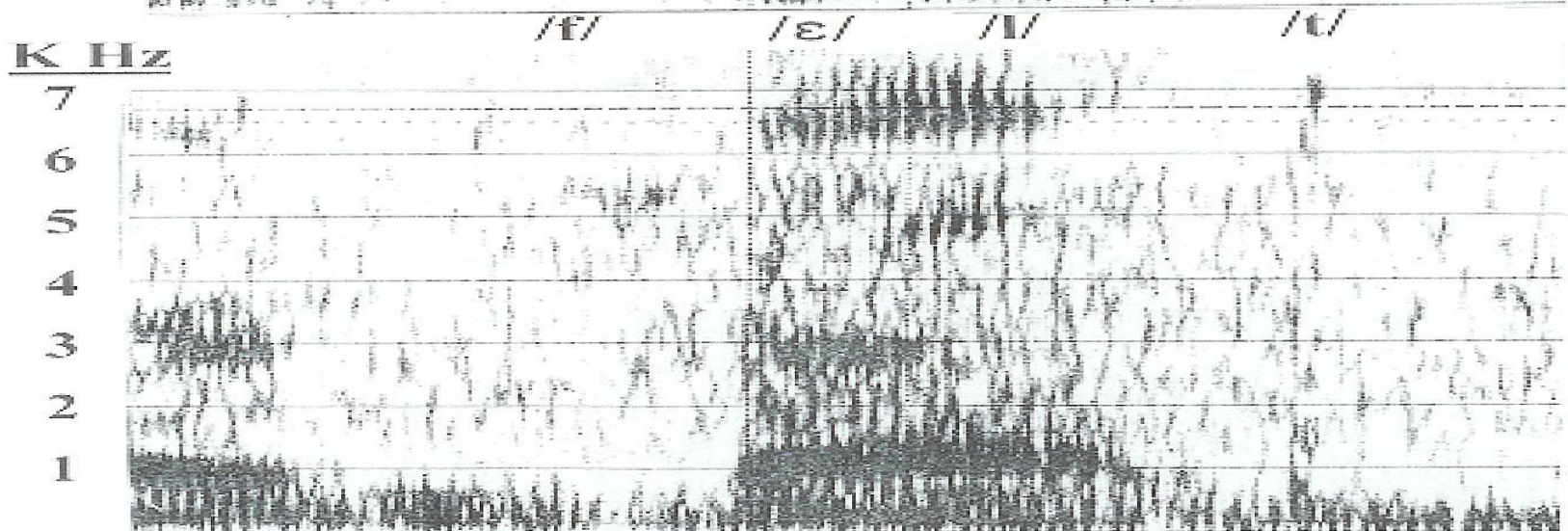
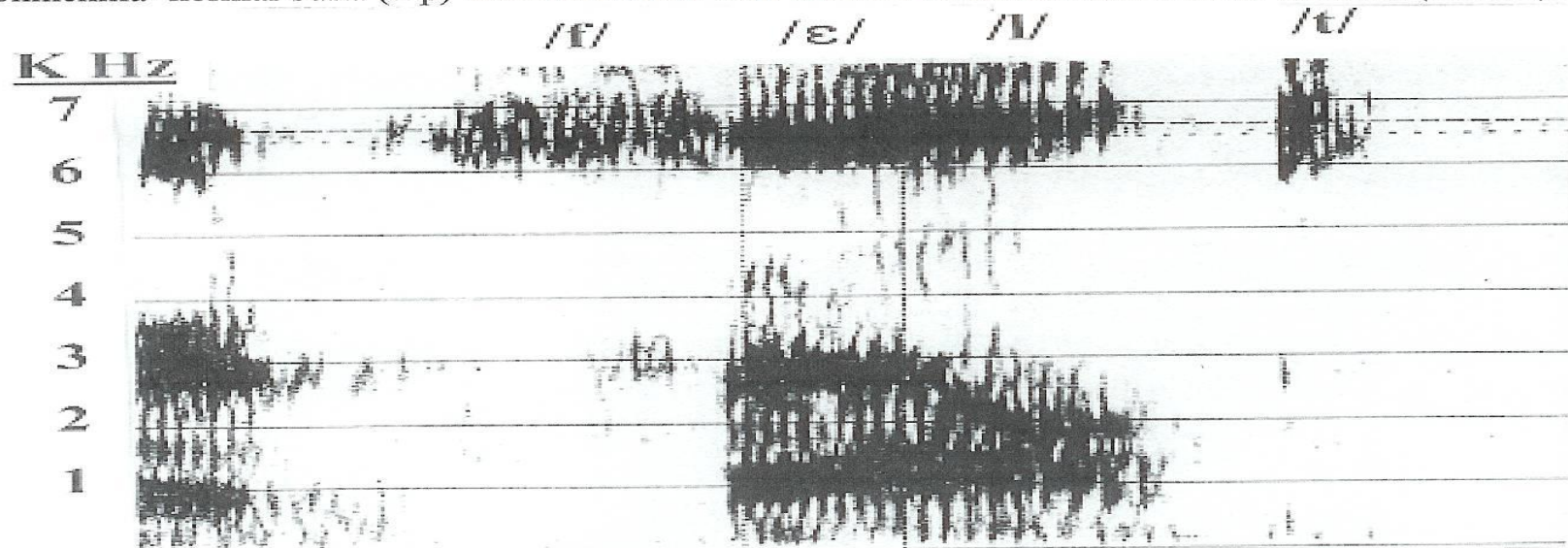
Middle Ear Filled with Mineral Oil



Katz & Boetcher

September 14, 2012

Chinchilla- normal bulla (top) and bulla filled with mineral oil to simulate middle ear fluid (bottom).



Characteristics of O.M. Dialect

- Not distinct: soft contacts & noisy
- Nasal
- Lower pitch, cul de sac resonance
- ‘*Say the L-sound*’ = /ɽ/ or /ɽl/ (back of throat)
- As I think of OM spectrogram these characteristics & the errors on the next slide make sense

Common Errors CTB – W-22 & PS

Quiet

owl	/o/ /au:/ /au/*
it	hit

Noise

add	had*
aim	haim
is	his
ate	hate*
oil	hoyl
nest	mest*

Noise

knit	mit*
dull	doe*
owes	hose*
end	him*

Phonemic Synthesis

child	chiod*
cold	code*
milk	~/m□lk/*

2 More Studies

- Webster & Webster raised mice w/ congenital atresia
 - @40 days found abnormal develop brainstem structures
 - mildly depressed grp (no atresia, just sound room) almost as much abnormalities (?extent not as important as duration)
- @ 80 days higher in brainstem
- Perhaps even later higher in CANS
- Folsom comparable (ABR) results in children but not Wave I, but .05 for III and .01 for V.
- Again must wonder what happens higher in CANS
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Thank You!

