

Exhibit 4-6 continued

ations in her life, such as band and teaching twirling, that cause her to use increased loudness levels.

*Quality*

The quality of Alice's voice was assessed. Her voice was moderately breathy and hoarse. There was a definite harsh strain heard in her voice. Her speech was also characterized by slight hypernasality.

*Breath Features*

Speech breathing was assessed. Alice used the clavicular region. A slight audible inhalation was evident during speech breathing. Alice stated that she uses an excessive amount of words per breath. She also commented that she sometimes runs out of breath when trying to finish sentences. Alice was able to prolong the /a/ sound for the normal amount of time, but her voice fatigued toward the end. The s/z ratio was 1.07, which suggested a normal larynx, but her voice tired at the end.

*Rate*

Alice's rate of speech was assessed. Her rate of 180 words per minute was within normal limits.

*Connected Speech*

A sample of conversation was obtained to assess Alice's voice in connected speech, compare findings to those obtained during formal testing, and evaluate intelligibility. Alice's voice was found to be breathy and harsh with slight hypernasality. Her breathing was clavicular instead of diaphragmatic. Alice's speech was intelligible. The problems found in connected speech were consistent with those found during formal testing.

*Oral Peripheral Examination*

An oral peripheral examination was performed to assess the structure and functioning of the oral mechanism.

*Structure*

Alice's oral structures are adequate for speech production.

*Function*

Alice had some difficulty performing diadochokinetic movements. While repeating /p/, /t/, and /k/ individually in rapid succession and while repeating /pʌtəkə/, her voice demonstrated fatigue.

*continues*