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Development of stomach x-ray examination communication-aid for hearing-impaired - Facilitating examination process through text and sign language display -



Prototype communication system (subject side)



Example of image displayed to subject

Please hold the cup in your left hand

The Central Research Laboratory of Hitachi, Ltd., in cooperation with Showa University, has developed a communication-aid for hearing-impaired subjects during x-ray examination of the stomach. Currently, it is common practice for radiologists to communicate specific instructions to the subject from outside the shielded room, via a speaker. In order to convey instructions to hearing-impaired subjects, however, other means of directly conveying instructions needed to be considered. The communication system developed conveys the instructions dynamically to the subject, via three liquid crystal displays attached to the x-ray diagnostic apparatus, using a combination of sign-language, text and computer-graphics animation, enabling hearing-impaired subjects to easily understand the radiologist's instructions, and thus undergo smooth uninterrupted examination with minimal anxiety.