

Povzetek strokovnega prispevka MI-2010 ■

Hitro odzivno neinvazivno zaznavanje dihanja za uporabo v terapevtskih in diagnostičnih aplikacijah

Rapid Responsive, Non-Invasive Breathing Detection System to be Used in Therapeutic and Diagnostic Applications

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Povzetek

Predstavili bomo sistem za zaznavanje dihanja za uporabo pri oddaljenem vodenju in nadzoru bolnikovega izvajanja dihalnih vaj za astmatike,^{1,4} za bolnike s povišanim krvnim tlakom⁵⁻¹⁰ in za biofeedback regulacijo somatskega stanja pri osebah z anksioznimi in stresnimi motnjami.¹¹⁻¹⁵ Sistem za hitro odzivno zaznavanje dihanja je sestavljen iz štirih visoko odzivnih akustičnih mikrofonov ter računalniškim programom, ki izvaja sledeče korake: fazno odštevanje signalov za izločanje okoljskega hrupa, določanje posameznega izdiha, določanje relativne moči in dolžine posameznega izdiha in določanje trenutne periode in njen odklon od srednje vrednosti predhodnih period. Vsi ti podatki se nato posredujejo terapevtski biofeedback aplikaciji, ki v realnem času izvaja vizualni in zvočni odziv, ki bolnika spodbuja k dihanju v dolgih in enakomernih periodah in dihanju z podaljšanimi izdihi, t.j. čimdaljšimi izdihi relativno glede na povprečno periodo dihanja.

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