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국문 강연제목: 직업적 특성과 뇌 구조 관찰 연구 및 협업 기회

영문 강연제목: Occupational characteristics and brain structure research and collaboration opportunities

Abstract(영문):

Recent advances in neuroimaging have elucidated the brain's capacity for neuroplasticity—the ability to adapt and reorganize neural networks in response to environmental demands and occupational activities. Occupation-specific factors, including learning new skills, repetitive practice, and psychosocial stressors, can induce measurable changes in key brain regions through mechanisms such as cortical remapping and synaptic growth. For example, volume differences in serotonin- and melatonin-related structures (e.g., periaqueductal gray, pineal gland, dorsal raphe nucleus) have been observed among workers experiencing chronic overwork or shift working, highlighting the biological impact of occupational exposures.

Brain imaging offers translational opportunities not only for understanding disease risk, but also for the development of predictive tools and interventions tailored to human health. Advances in MRI analysis now enable precise mapping of occupational and environmental risk factors to neural changes, supporting early identification and prevention efforts. This expands medical collaboration possibilities: data sharing, protocol harmonization, and joint development of occupational neuroimaging cohorts will advance both research and practical health promotion.

WBrief Biosketch (간단한 이력, 연구/대외활동 소개,국문/영문)

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