• 計畫中文名稱	研究失眠病患之臨床特性與電生理表徵(I)		
• 計畫英文名稱	A Study on the Relationship between Clinical Manifestation and Electrophysiological Marker in Insomnia Patient(I)		
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• 執行機構	臺北醫學大學醫學資訊研究所		
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• 研究領域	資訊科學--軟體		
• 研究人員	徐建業,徐榮隆,邱泓文		
• 中文關鍵字	睡眠障礙；失眠症；多頻道睡眠記錄儀；電生理表徵；醫學資訊		
• 英文關鍵字	Sleep disorder； Insomnia； Polysomnography； Electrophysiological marker；Medical Informatics		
• 中文摘要	失眠是最常見的一種睡眠問題。許多研究顯示台灣社會中大約三分之一的人皆有某 種程度的類似困擾。失眠把它定義爲儘管有適當的時間睡覺，但睡眠品質不佳或是不充 足的感覺，導致生活感覺處在不清醒或者持續精神不振。根據這個失眠定義，國際睡眠 疾病分類(International Classification of Sleep Disorder，ICSD)把失眠分成三類：心理生理 性失眠（psychophysiological insomnia）、矛盾性失眠(paradoxical insomnia)、自發性失眠 症(idiopathic insomnia)。其中以心理生理性失眠(psychophysiological insomnia)的定義及 疾病概念可相對應於原發性失眠症(primary insomnia)。 生理心理性失眠(psychophysiological insomnia) (Morin & Espie, 2003)是指重複地出 現入睡困難、睡眠維持困難、夜間睡眠不穩定、或品質不佳等困擾，這些睡眠問題導致 患者在白天出現不同形式的功能障礙。診斷原發性失眠症可分爲客觀與主觀兩部分，主 觀評估則是利用多種不同的診斷問卷或自陳式問卷，確認是否有其他應被排除的精神疾 患，以及瞭解失眠的內容與特性；客觀測量主要以多頻道睡眠記錄儀（polysomnography， 簡稱 PSG）來監測夜間睡眠狀態。原發性失眠患者在 PSG 的檢查結果中，失眠患者通 常會呈現入睡時間長、半夜醒來次數或時間增加，睡眠效率差，失眠患者的第一階段睡 眠會增加，慢波階段的睡眠會減少。研究顯示原發性失眠患者在 PSG 的檢查不會有呼 吸問題、肢體抽動問題等，也鮮少發現類睡症(Parasomnia)。 失眠患者在臨床治療及診斷過程中，常有大量數據被紀錄下來，我們認爲分析此類 數據並與臨床結果結合是一個非常重要的研究議題。本計劃的目的將針對睡眠障礙病患 所紀錄的 PSG 訊號，快速且有效率的分析出電生理表徵所代表的特徵與意義。我們將 現有之臨床資料加以數位化整合，建立資料庫以收集病患資料，初步嘗試建立一個睡眠 分析模型並評估其效果，期待能找到一個電生理表徵(electrophysiological marker)以對應 失眠症的臨床表現，提供醫護人員在診斷與判讀上之重要參考。		

• 英文摘要	Insomnia is the commonest sleep complaint. Many epidemiological studies show that about one third of adults in developed societies have some degree of insomnia each year. The definition of insomnia is a perception of insufficient or poor quality sleep, despite an adequate opportunity for sleep, leading to a feeling of being un-refreshed on waking or during wakefulness. Based on this definition, the International Classification of Sleep Disorder (ICSD) divides the insomnia into three major categories, e.g. psychophysiological insomnia, paradoxical insomnia and idiopathic insomnia. Among these categories, the psychophysiological insomnia is similar to the primary insomnia defined by the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV). Based on the studies from Morin et al(Morin & Espie, 2003), primary insomnia can be cause by hyperarousal state, possibly due to excessive activity of the ascending reticular activating system and persists during wakefulness as well as sleep. Evaluation of primary insomnia includes subjective measurement such as sleep daily, insomnia severity questionnaire and other psychological assessment. The objective measurement tool is using polysomnography (PSG). Most common feature from polysomnography study shows that primary insomnia patient has longer sleep onset time, poor sleep efficiency, decrease slow wave sleep duration and increased stage I sleep time, and frequent spontaneous arousal. By definition, PSG study should not have sleep breathing disorder, parasomnia or sleep related movement disorder in the primary insomnia diagnosis. Our study goal is trying to find an electrophysiological marker from PSG study relating to the clinical manifestation of insomnia. The final outcome based on insomnia severity questionnaire and other parameters divides the participators. We will use the PSG data before search the effective electrophysiological marker such as spindle density or other traditional PSG parameter (e.g. sleeps onset time, sleep efficiency) which can effectively separate these two groups. Besides, the underlying pathophysiology will be discussed according to our findings. One clinical sleep study database system which included patient’s clinical symptoms, questionnaire and PSG parameter will also be build during our study time. The application will be beneficial to the insomnia patient as well as the clinician to get a more deep insight in insomnia treatment.