• 系統編號	RN9607-3575
• 計畫中文名稱	不同植入性金屬於動物體內的腐蝕與鎳離子釋出對組織肌肉發炎之關聯及不同消毒方式對金屬材質之影響
• 計畫英文名稱	Effect of Steam Sterilization on the Oxide Film Properties of 316L Stainless Steel Sternal Wire
• 主管機關	行政院國家科學委員會
• 計畫編號	NSC94-2314-B038-037
• 執行機構	台北醫學大學內科
• 本期期間	9408 ~ 9507
• 報告頁數	6 頁
• 使用語言	中文
• 研究人員	施俊明 Shih, Chun-Ming
• 中文關鍵字	--
• 英文關鍵字	Steam sterilization; Stainless steel sternal wire
• 中文摘要	查無中文摘要
• 英文摘要	Sterilization is the important step for the medical devices to be able implanted inside human body. In this work, we studied the effect of steam sterilization cycles on the properties of oxide film on stainless steel sternal wire. Characterization techniques such as open-circuit potential, potentiodynamic measurement, electrochemical impedance spectroscopy, cathodic stripping, and scanning electron microscopy were employed to co-relate the corrosion behavior to the cycles of steam sterilization. Results showed that oxide properties are found to be a function of the cycles of steam sterilization and deteriorate as the cycle increasing. Heavy metals could be released to the surrounding tissues due to the deteriorated oxide film. Steam sterilization is, therefore, not recommended for re-use purposes implantable devices.