

採用微膠囊技術研發治療足癬(香港腳)的衛生襪

Hygienic Socks with Antifungal Microcapsules for Patients with Tinea Pedis (Athlete's foot)

衛生襪能大大增加足癬患者的治療成功率和減少復發機會

Development of hygienic socks to increase the successful rate of curing patients with tinea pedis and reduce the chance of relapse

專利申請編號及國家：13/219,248 (美國)

特色與優點

- 採用了水份管理和高透氣度的舒適布料
- 應用了微膠囊技術，為穿戴者提供全天候的藥物治療
- 「腳趾襪」設計
- 能大大減輕足癬對患者日常生活的影響

應用

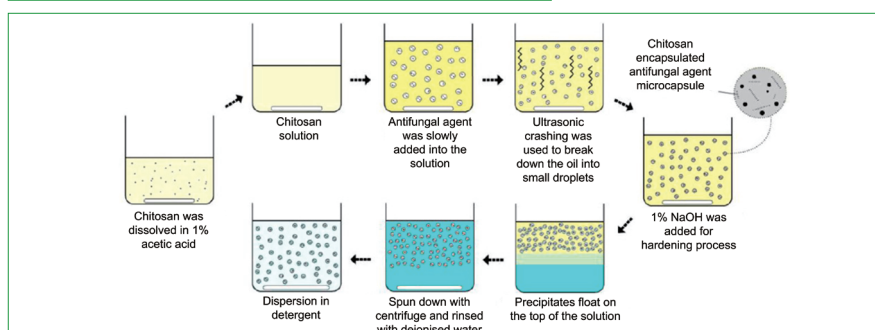
應用此微膠囊技術於日常衣物上，能提供方便的抗真菌治療，足癬的患者將同時接受藥物和非藥物治療，增加治療香港腳患者的成功率、減少復發的機會。

獎項

- 第40屆瑞士日內瓦國際發明展 — 金獎 (2012年4月)
- 俄羅斯內務國際科學技術合作協會特別獎—金獎(2012年4月)

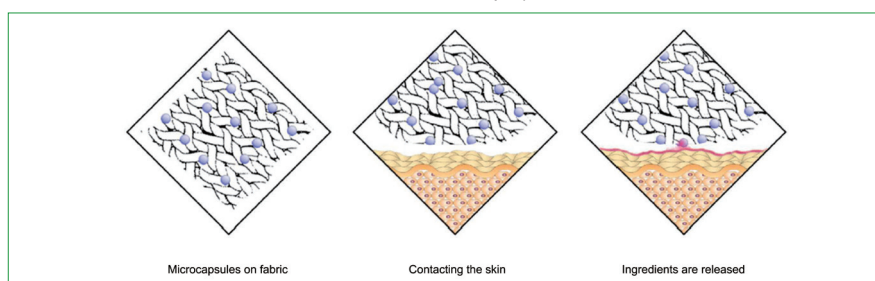


腳趾間的足癬
The interdigital-type tinea pedis



附有抗真菌藥物的微膠囊製作流程

A process flow diagram of developing an oil-in-water (O/W) microencapsulation system using chitosan nature biopolymer



抗真菌藥物釋放過程

A process flow diagram of antifungal agent releasing or diffusion mechanism of the hygienic socks

Tinea pedis (Athlete's Foot) is a common skin disease which affects a large number of the population in the world. The hygienic socks are designed and developed for daily pharmacological treatment of a fungal infection. The socks comprise (1) a textile material to manage moisture when it is worn; (2) microcapsules grafted onto the textile material; and (3) antifungal agents encapsulated within the microcapsules are released to pharmacologically treat the fungal infection. The development of hygienic socks through the microencapsulation technology will increase the successful rate of curing patients with tinea pedis and reduce the chance of relapse.

Principal Investigator

Prof. Marcus Chun-wah YUEN

Deputy Investigator

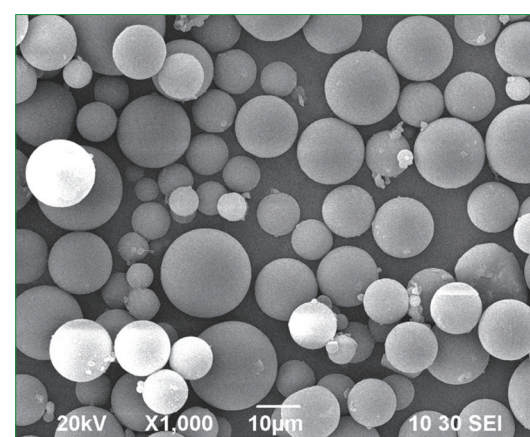
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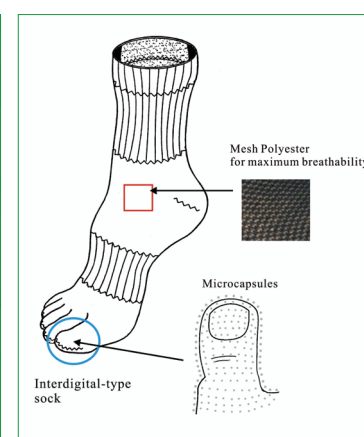
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在放大鏡下的附有抗真菌藥物 微膠囊影像(放大1000倍)
A SEM image of Antifungal agent-loaded Microcapsules at 1000x magnification



採用微膠囊技術研發的衛生襪
Hygienic Socks with Antifungal Microcapsules

Patent Application No.: 13/219,248 (US)

Special Features and Advantages

- Textile material with excellent moisture management and maximum breathability
- Anti-fungal agent-loaded microcapsules for the convenience of daily pharmacological treatment
- Interdigital-type socks
- Reduce the effects of the skin disease on the quality of daily life

Application

The technology can be applied to an item of clothing for the convenience of daily treatment of a fungal infection. The users (patients with tinea pedis) will undergo both non-pharmacological and pharmacological treatments to reduce the microbial overgrowth on their feet.

Awards

- Gold Medal - 40th International Exhibition of Inventions of Geneva, Switzerland (April 2012)
- Special prize - Gold Medal from Association "Russian House for International Scientific and Technological Cooperation" (April 2012)



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