

Newsletter of Science Society April, 2014

二零一四年四月號

○ ○ ○ Cosmetic Face Mask ○ ○ ○ ○

近年,愈來愈多款式的面膜推出市面,無論是男士或是女士都被面膜具有的優越效能吸引,究竟面膜的效用是如何厲害?面膜的原理又是甚麼呢?

面膜種類:









泥狀面膜

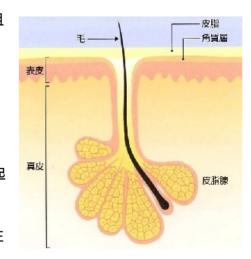
膜狀面膜

膠狀 / 乳霜面膜

剝離式面膜

面膜原理:

面膜的原理是採用厚厚一層不同作用和成分的敷料敷在臉部,阻隔肌膚與空氣的接觸。當這一層敷料緊緊地貼在肌膚上時,會因抑制皮脂(Sebum)的分泌與汗水的蒸發而使肌膚溫度上升;肌膚溫度上升之後,便會促進血液循環(Blood circulation),使滲入肌膚的養分在細胞間更深更廣地擴散開。 肌膚表面那些無法蒸發的水分則會留存在表皮層(Epidermal layer),表皮層的水分飽滿起來,肌膚看起來就會比較光滑緊繃,細紋也會變得淺淡;另外,溫度和溫熱會使角質(Stratum corneum)軟化,毛細孔擴張;毛細孔一擴張,堆積在裡面的汗垢便可乘機排除,這也正是為什麼面膜具備徹底清潔肌膚功能的原因。



面膜效能:

★ 把濕潤的面膜敷在臉上,面膜里的物質就把皮膚緊緊地包裹起來,讓皮膚與外界的空氣阻隔開,一方面讓水分緩緩地滲透入表皮的角質層,同時也防止膜內的水分很快丢失,讓角質層的細胞在濕潤的環境中「喝個夠」,使深層細胞的**膠原質 (Collagen)** 吸足水分,這樣皮膚便會柔軟起來,增加彈性。與此同時,皮膚表面「鋪上了被子」,

會暖和起來,**毛細血管** (Blood capillary) 慢慢擴張,於是加速了皮膚深層的血液微循環,增加了表皮各層細胞的活力,一除疲憊的老態。

- ★ 在做面膜的過程中,皮膚與外界空氣阻隔開,皮膚表面的溫度有所升高,也會使毛孔擴張,促進汗腺 (Sweat gland) 的分泌,這樣就有利於把毛孔里沾染的外界灰塵、化學污染物質和微生物清除,同樣也有利於排除表皮細胞新陳代謝 (Metabolism) 產生的廢物和積累得過多的油脂類物質。緊跟著,面膜在形成膜時,它的膠黏性成分就會把皮膚表面和毛孔里的污垢、化學污染物、廢物、油脂等有害於皮膚健康的「毒」物黏附在一起徹底清除。有的面膜里還加入一些粉狀的吸附劑 (Sorbent) ,把油性皮膚上過多的油脂吸附掉。面膜這種清潔護膚的效能是十分顯著的,容易生暗瘡、長青春痘的年輕人常做面膜,不但可以有效地預防暗瘡的發生,也有助於暗瘡的治療。
- ★ 面膜敷在臉上慢慢乾燥後形成薄膜,在這過程中緩緩地把皮膚適度地收緊,增加張力,形成一種良好的刺激,讓皮膚上的皺紋舒展開來。小的皺紋看不見了,大的深的皺紋顯得小了、成了,整個面容也就顯得年輕了。
- ★ 濕潤的面膜敷在臉上,並停留一段時間,這就方便了營養性或功效性的物質渗透進入皮膚的深層。與此同時,毛細血管的擴張,血液微循環的增加,會大大促進細胞對面膜中營養性或功效性物質的吸收和利用。正是考慮到這種優異的效果,人們便把這樣那樣的營養性或功效性物質添加進面膜里,以期取得更好的效果。這麼一來,面膜除了上面講到的基本功效外,按照添加進來的物質。還可以增強或增加各種各樣的功效,如保濕潤膚、美白去斑、防皺抗衰老、消炎排毒、防治暗瘡等。雖然



做面膜是對臉有很大的好處,但是面膜也不需要天天都敷,一般是兩到三天敷一次比較好。

Self-cleaning clothes

Cleaning clothes usually requires soap and water to remove stains and smells, and a tumble in the dryer or an afternoon on the clothesline to dry. The time and energy needed to turn a heap of dirty laundry into a pile of clean clothes might make people wish for clothes that just clean themselves. That wish is a step closer to coming true. Recent experiments show that cotton fabric coated with the right mixture of chemicals can dissolve stains and remove odors after only a few hours in the sun.



"The technology can be applied to all kinds of fabrics and their related products," says materials scientist Mingce Long. He helped develop the treated cotton with his colleague Deyong Wu, both of China's Shanghai Jiao Tong University.



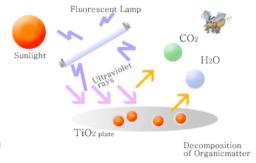
The handy fabric gets its self-cleaning abilities from a chemical mixture that coats the cotton threads. The coating includes substances known as **photocatalysts** (光催化劑), which trigger chemical reactions in light. One of those photocatalysts, called **titanium dioxide** (二氧化鈦), helps sunscreen block the sun and is used as tattoo ink. Another, called **silver iodide** (碘化銀), is used for developing photographs.

Researchers have previously shown that titanium dioxide mixtures could remove stains in clothes — but with exposure to ultraviolet, not visible, light. (The waves of ultraviolet light are more energetic and

shorter than those of visible light.) Other studies have demonstrated that silver iodide can speed up chemical reactions in sunlight.

"We knew that self-cleaning cotton fabrics with titanium dioxide coating had already been developed, but they cannot work, or they work weakly, under sunlight,"

Long says. "If we want to use the fabrics in daily life, we must develop cotton that cleans itself under daylight." Long and Wu created just such a fabric, working for years to perfect the recipe for a liquid dip that left cotton coated with the titanium dioxide mixture. Then they added particles of silver iodide, which boosted the fabric's self-cleaning ability in the sun. In laboratory tests, their creation was nearly seven times better at removing stains (and killing bacteria lurking in the clothing) than titanium dioxide alone.



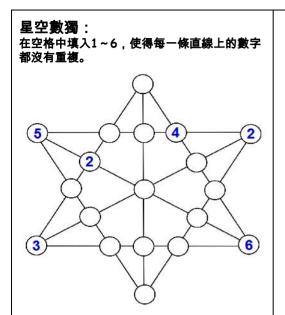
Photocatalyst Reaction

The scientists can't start selling their self-cleaning cotton just yet; scientists still need to make sure the coated cotton won't harm those who wear it. Although titanium dioxide is used in some foods, recent experiments have shown that it can cause health problems if it gets in the lungs. So before the material can be worn, scientists need to find a way to make it safe.

Seminars:

Date	Time	Venue	Speaker	Topic		
26-04-2014	2:30 pm -	Lecture Hall,	Professor	Gut Microflora,		
(Sat)	3:30 pm	Hong Kong	Hsiao Wen	Human Health and Chinese Medicines		
		Science	Luan, Wendy			
		Museum	蕭文鸞教授	│中藥、腸菌與人體健 │康		
			(香港浸會大學中			
			醫藥學院教學部研			
			究教授)			

~~ TIME TO RELAX ~~



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Sodoku

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2	1	3	8	5	7	9	4	6
2	8	4	6	9	2	3	7	1
9	7	6	1	4	3	8	5	2

Comic Corner:



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