



# Melasma and Solar Lentigo in Asian Skin (Skin Type IV) with Fotona StarWalker

Wai Yang Tan, MD

## Introduction:

Melasma, a common pigmentary disorder primarily impacting individuals with Asian skin, presents notable management challenges, particularly due to its association with hormonal fluctuations and pregnancy. Achieving effective management of melasma remains challenging, often marked by extended timelines for improvement and a tendency for relapses.

The use of laser therapy in melasma treatment is particularly intricate, especially in individuals with Fitzpatrick skin type IV or V, commonly characterized by Asian skin. The unique characteristics of Asian skin, including an increased risk of post-inflammatory hyperpigmentation and sensitivity to heat, necessitate precise laser parameter selection to achieve therapeutic effects while minimizing adverse reactions. Additionally, the coexistence of melasma with other pigment conditions such as solar lentigo further complicates treatment strategies, emphasizing the need for tailored care and cautious laser application to navigate the challenges and mitigate potential risks.

Laser	Fotona StarWalker MaQX				
	Step 1	Step 2	Step 3	Step 4	Step 5
Wavelength	1064 nm	1064 nm	1064 nm	1064 nm	532 nm
Handpiece	R28d	R28d	R28d	FS20A	R28d
Spot size / Fiber tip	6–8 mm	4 mm	4 mm	9 x 9 mm	7 mm (capped)
Fluence	1.2–1.6 J/cm <sup>2</sup>	8.0 J/cm <sup>2</sup>	2.5–3.0 J/cm <sup>2</sup>	18–24 mJ/px	3.0 J/cm <sup>2</sup>
Mode / Pulse	Q-Switched MaQX-1	FRAC3	Q-Switched MaQX-1	MaQX10	Q-Switched MaQX5
Frequency	10 Hz	4 Hz	10 Hz	1.5 Hz	2 Hz
Passes / Repeats	2–4	4–8	2–4	2	Single Pass, 1 Shot
Cooling	Yes	Yes	Yes	Yes	Yes
Sessions	4 sessions every 4 weeks				1 <sup>st</sup> and 2 <sup>nd</sup> session



Dr Tan Wai Yang is a medical aesthetic practitioner based at Dr A Clinic in Kuala Lumpur, Malaysia. He received his M.D. from UNIMAS Malaysia and a Professional Diploma in Aesthetic Medicine from IIWAM, formerly recognized as the Aesthetic Academy of Asia, as well as a Professional Diploma in Clinical Dermatology from AFPM, Malaysia. He extensively integrates the Fotona laser system in his daily practice.

CLINICAL CASE:

This case involved a 54-year-old female with melasma, which worsened after her pregnancy. She had undergone chemical peel and laser treatments previously. She began her treatment in April 2023 and underwent four Fotona StarWalker sessions until August 2023, with 30-day intervals between each session. During the first and second visits, an additional lentigo treatment setting was included. Following Drs Velez's melasma protocol (editor's note: based on LA&HA CB04, 2019; J Drugs Dermatol. 2021; PMID: 33538564), the treatment resulted in significant improvement in pigmentation and enhanced skin quality.

The treatment consisted of four steps performed with the Nd:YAG laser (StarWalker; Fotona), following a specific sequence of parameters (see the table above). **Step 1:** A 6–8 mm spot was used for broad, low-intensity toning to reduce diffuse epidermal and superficial dermal pigmentation with minimal inflammation. **Step 2:** FRAC3 was applied for deeper melanin remodeling, reduction of subclinical inflammation, and modulation of the vascular component known to aggravate melasma. **Step 3:** The 4 mm spot was used for focal areas of resistant pigmentation, where higher peak fluence helps break down localized melanin clusters without exposing the entire face to unnecessary energy. **Step 4:** FS20A assisted by promoting epidermal turnover, enhancing superficial melanin clearance, and improving epidermal barrier stability. Following treatment, the patient was advised to avoid sun exposure and use daily sunscreen. She was satisfied with the result.



Published by the Laser and Health Academy. All rights reserved. © 2024

Disclaimer: The intent of this Laser and Health Academy publication is to facilitate an exchange of information on the views, research results, and clinical experiences within the medical laser community. The contents of this publication are the sole responsibility of the authors and may not in any circumstances be regarded as official product information by the medical equipment manufacturers. When in doubt please check with the manufacturers whether a specific product or application has been approved or cleared to be marketed and sold in your country.

