

## Importance of pharmacotherapy in OCD (obsessive compulsive disorder) patients

### Abstract

The efficacy and safety of conventional laser hair removal technology is fundamentally based on clinical case studies. However, the internal temperature of hair during treatment and thus the efficacy of the laser pulse cannot be measured or evaluated. Also, the level of heat that reaches the surrounding skin tissue is just estimated in order to prevent burning. In this sense, any method that enables the measurement of the temperature that reaches the hair and skin during a laser pulse is a potential tool to improve laser hair removal technique and to increase the safety of laser technology. Here we develop new numerical multiphysics simulation software to simulate the hair removal process using COMSOL Multiphysics® software. We create 3D models of dermal tissue that include the epidermis, dermis and hair follicle structure. Subsequently, laser pulses of 755 nm, 810 nm and 1064 nm with different power and pulse characteristics have been simulated. Through a process of numerical calculation, we simulated the heating of skin and hair follicles with various characteristics and determined the temperature and thermal damage in order to anticipate the efficacy and safety of laser hair removal. We show that the best results are obtained with shorter pulse durations and, therefore, with the highest laser power. Moreover, we demonstrate that longer wavelengths (1064 nm) provide better efficacy and safety for dark skin. The model developed in this study can be used to gain a better understanding of the laser hair removal process, to conduct clinical studies, develop better and safer devices, and to assist clinicians in the selection of parameters for achieving optimal and safe results during hair removal.



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### Biography

Nancy Labib Mahmoud, has obtained her master's degree of neuropsychiatry in 2009 from Ain Shams university in Egypt.

After which she has pursued her passion in working with adults in general psychiatry, from working at MUST (misr university for science and technology) for 7 years, moving to the outpatient clinic work in two of the most recognized private clinics in Egypt, REVIVE medical & CITY clinic, this journey has included working with NGO's including PHASE (psychological health awareness of society in Egypt), MSF (medecin sans frontiers), Samu-social. During which she has obtained diploma of group therapy and psychotherapy (2014-2020), followed by diplome of psychotherapy (2013-2017). Currently pursuing diplome of EFT (emotional focused therapy) for couple counselling. Finally founded her own private clinic 2017 named IPC (integrative psychiatry clinic) creating a team of professional specialists and therapists to help all serve the mission of IPC clinic.



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