Method for applying anti-biofilm effects of methylene blue and low-intensity red-spectrum laser radiation to Staphylococcus aureus involves culturing 5-day-old biofilms of clinical isolates of Staphylococcus aureus and the reference strain Staphylococcus aureus ATCC 25923 in 96 -well microtiter plates, followed by the removal of planktonic forms of microorganisms and the addition of a 0.1% aqueous solution of methylene blue, a 20-minute dark incubation period, and irradiation with low-intensity red-spectrum radiation. Wherein, microbial biofilms are irradiated with low-intensity radiation from a laser physiotherapy device at a wavelength of 660 nm and a power density of 40 mW/cm², with an exposure time of 20 minutes using a “converging circle” scanning pattern. The results are determined by re-culturing suspended and titrated biofilm scrapings from the bottom of the wells and comparing them with control groups.