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Abstract	:	<p>Natural rubber medical gloves protect healthcare workers from contaminated blood and bodily fluids and avoid cross-infection during surgery. A surgical glove coated with the antimicrobial agent is an effective alternative to limit the risk of contamination between the physician and the patient. The natural rubber latex (NRL) films coated with chitosan were synthesized with a particular film deposition and consolidation during the thin glove coagulant dipping process in this study. The scanning electron microscopic observations showed that chitosan was coated successfully onto the surface of the NRL film, indicated by the increase of surface roughness. The obtained results revealed that the optimum drying temperature after the dipping process is 110 °C which resulted in required thickness and excellent mechanical properties, including tensile strength and elongation to break. Moreover, the increased amount of chitosan-coated onto the NRL also improved mechanical properties and resistance against accelerated aging. The antimicrobial test of the chitosan coated NRL films shows much stronger antibacterial activities against both Gram-positive <i>S. aureus</i> and Gram-negative <i>E. coli</i>. Therefore, the proposed procedure has great potential to be applied for the preparation of latex medical surgical gloves with improved mechanical properties and antibacterial activities.</p>