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### Role of forensic expert in identifying and preventing child trafficking

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**Background:** Child trafficking is a significant global concern that infringes upon the rights and welfare of children, subjecting them to exploitation, abuse, and neglect. Forensic medicine (FM) is distinctly equipped to aid in the identification, investigation, and prevention of child trafficking; yet, its practical applications in this domain necessitate enhanced emphasis and clarity. This study aims to (1) clearly define the role of forensic medicine in child trafficking cases, (2) detail specific forensic methods and their impact on victim identification and legal processes, and (3) highlight multidisciplinary strategies for prevention and intervention.

**Method:** A comprehensive literature review was performed utilizing PubMed, Web of Science, and Google Scholar. The review concentrated on current advancements and case studies demonstrating the application of forensic medicine—encompassing clinical forensic examination, forensic odontology, DNA profiling, and digital forensics—in the identification and prevention of child trafficking.

**Results: Clinical Forensic Examination:** Forensic medics meticulously record physical injuries, starvation, indicators of neglect, and psychological trauma, furnishing essential evidence for the identification of trafficking victims. **Forensic Odontology:** Dental age estimation and bite mark analysis aid in verifying the age and identity of minors, particularly in the absence of formal documentation. **DNA Profiling:** Rapid DNA analysis is crucial for reuniting trafficking children with their families, clarifying contested identities, and aiding criminal investigations. **Digital Forensics:** Analysis of digital devices and online communication facilitates the identification of trafficking networks and the monitoring of victim movements. **Interdisciplinary Collaboration:** An effective reaction necessitates collaboration among forensic specialists, law enforcement agencies, social services, and legal authorities.

**Conclusions:** Forensic medicine is crucial for a strong, evidence-based approach to child trafficking. Forensic professionals utilize specific medical, dental, genetic, and digital skills to improve victim identification, assist legal proceedings, and aid in preventative measures. Continuous training, ethical conduct, and technical advancement are essential for optimizing the efficacy of forensic medicine in child protection.

**Keywords:** Forensic medicine, child trafficking, victim identification, forensic odontology, DNA profiling, digital forensics, multidisciplinary approach.