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Unintentional Epinephrine Auto-Injector Maxillofacial Injury in a Pediatric Patient

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CASE PRESENTATION
A four-year-old female patient presented to the emergency department (ED) with an epinephrine auto-injector that had unintentionally discharged into her mandible. There was difficulty removing the auto-injector at bedside. Images we acquired noted needle curvature not present in an off-the-shelf model. She was sedated, and the auto-injector was removed by retracing the angle of discharge, with care taken not to inject epinephrine into the patient.

DISCUSSION
Unintentional epinephrine auto-injector injuries typically occur in the digits or the legs. These cases are on the rise, as epinephrine auto-injectors have become more commonly prescribed. However, exploring the world by placing...
Maxillofacial Injury in a Pediatric Patient

CPC-EM Capsule

What do we already know about this clinical entity?
Epinephrine auto-injector accidental discharges are a unique and rising injury pattern in the United States and can have deceivingly simple presentations.

What is the major impact of the image(s)?
Emergency medicine physicians should be aware of complicating factors with accidental auto-injector injuries, such as bent needles, and appreciate nuances to treatment.

How might this improve emergency medicine practice?
Emergency medicine physicians will be more familiar with this particular injury pattern and be more effective at treating similar auto-injector injuries.

The mechanism behind the hooking of the needle of the auto-injector could presumably be due to hitting the subgingival areas of the incisor and curving, as well as bending, during attempted removals. Postulations from similar case studies regarding the curvature of auto-injector needles include bending when hitting a bone during injection, bending when the patient moves during injection, or if the needle fires off center and hits the cartridge carrier, hooking the needle prior to injection. This situation should be anticipated and investigated with imaging by the treating physician before attempting to remove the needle blindly. Stabilizing the auto-injector with a pillow and bulky dressing will also prevent further bending of the needle, which would make removal more difficult. Furthermore, care should be taken not to accidentally discharge the epinephrine dose, either by securing the pen with a bulky dressing as we did, or by removing the chamber (which we found to be extremely difficult). Prudent emergency physicians should keep these factors (object stabilization, needle curvature, and remaining epinephrine dose) in mind when treating a victim of accidental auto-injector discharge to a sensitive area such as the face.

The authors attest that their institution requires neither Institutional Review Board approval nor patient consent for publication of this case report. Documentation on file.

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Conflicts of Interest: By the CPC-EM article submission agreement, all authors are required to disclose all affiliations, funding sources and financial or management relationships that could be perceived as potential sources of bias. The authors disclosed none. The views expressed here are those of the authors and do not reflect the official policy of the Department of the Army, the Department of Defense, or the U.S. Government.

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