Use it! Don’t lose it!

By: Maclean

Don't ever lose your mouth guard again with my secure mouth guard holder.
Youth football players often lose their mouth guard when it is not in use, which puts the player at risk.

A common problem that all youth football players have is losing their mouth guard when they're done after practice or after the big game. Playing without a mouth guard is dangerous and could lead to serious injury. Players need a secure, convenient, and practical place to store it, so they won't lose it on the trip home or after a good hard day's workout on the field.
Safety comes first in youth football.

This is a serious problem for young football players because the mouth guard is a vital piece of equipment to play football safely. Some players think that it is the most important piece of equipment in football. They say this because a mouth guard can help stop a concussion, oral injury, or worse. So, we need a better way for players to keep up with their mouth guard.
The facts

- Use of a mouth guard can prevent over 200,000 oral injuries a year
- Without a mouth guard, kids can break teeth, fracture jaws, and cause root canal damage
- 75% of all injuries happen when kids are not wearing a mouth guard
- Only 32% of youth football players wear a mouth guard
- 3% of players have lost consciousness while not wearing a mouth guard


Existing mouth guard holders often don't work well or break easily.

There are two ways players store their mouth guards after they're on the field. (1) Some players have a tether that connects the mouth guard to their face mask, which is on their helmet. Some of the cheaper tethers can easily break, and even the better quality tethers can widen the hole in the mouth guard that the tether plugs into so that it becomes ineffective or just completely breaks. (2) Without a tether, players stick their mouth guard in a crook in between their helmet and face mask. The mouth guard can easily fall out and get lost.
Small, sturdy, attachable/detachable mouth guard clips

My 3D printed solution is small attachable and detachable mouth guard clips that can firmly grip and securely store a mouth guard to the face mask on a helmet. There is a rectangular piece in the middle (backboard), and on one side, the mouth guard will be attached. On the other side, there are two semi-spheres. In the middle of each semi-sphere, there is a small gap for the face mask bar to snap into. With a little force, you can securely attach and reattach your mouth guard before and after practice or the game. The holder is integrated into the mouth guard, so you don’t have to worry about losing it.
Progress on Tinkercad

1.

2.

3.

4.
Practical, convenient, and inexpensive mouth guard holder

This mouth guard device would be 2 in. wide, 1½ in. long, and 1 in. tall. The small size will ensure the mouth guard holder will not get in the player’s way in the middle of a game. The integrated mouth guard and 3D printed device cost $13.42 (compared to a regular mouth guard you can buy today that costs $13.00).
It will work!

I designed my mouth guard holder with Tinkercad. When 3D printed, the holder would work well and keep your mouth guard in a secure and safe place. No more lost mouth guards littering the field. Injuries will be reduced. The clips would be strong and durable. It works for storing your mouth guard onto the player’s helmet when not in use, and when it is in use, it doesn’t get in the player’s way.
