

Prevention of dental trauma



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Traumatic dental and maxillofacial injuries are **very common** and appear worldwide to affect approximately 20-30% of permanent dentition

Consequence: often serious

- * psychological
- * Economic
- * Functional
- * Esthetic



the types of sports were classified based on their extent of contact into the following groups

- * Non-contact groups: gymnastics, volleyball, cricket, Racquet sport (badminton, tennis, table tennis)
- * limited-contact sports: basketball, softball, baseball....
- * semi-contact sports: karate, taekwondo, kickboxing..
- * full-contact sports:
 - * A) combat sports: boxing, judo....
 - * B) contact action sport: ice hockey, water polo
- Rugby-close contact team sport



- * A significant number of oral and dental injuries result from participation in contact sports such as American football, basketball, rugby, soccer, boxing, wrestling or stick sport.





- * Cohenca et al 10 year retrospective study five time more incidence are among basketball than football players.
- * Malanga and chimes (incidence at dental injuries) among **basketball** athletes to be up to 36.4% Which was 13 times higher than in **American football**.

Prevent dental maxillofacial injures

- 1) Prevent the import from getting in contact with the oral region
- 2) A cushioning device that absorbs **and/or** distributes the impact forces (mouth guards)
- 3) Restraining devices such as safety belts may absorb a significant part of the energy from the impact and thereby reduces the chance at the impact becoming delivered to the oral and maxillofacial region

Appliances to prevent dental injuries

- 1) facemask and/or mouthgaurd
- 2) A- seatbelts in a car (traffic accidents)
B- helmet with a chin arch (riding a motorcycle)
C- helmet (bicycling)

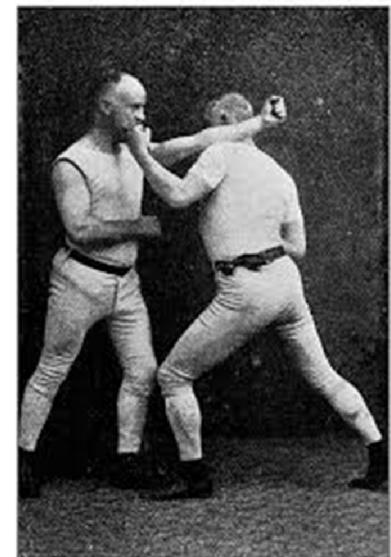
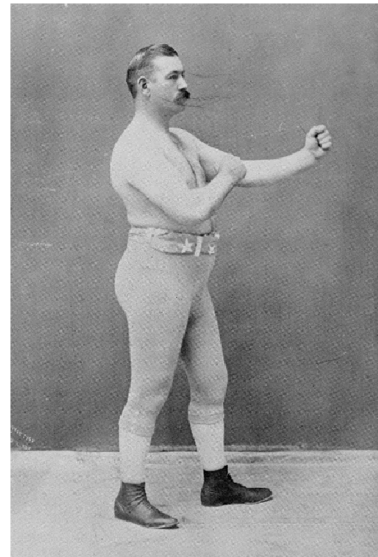


Faceguards



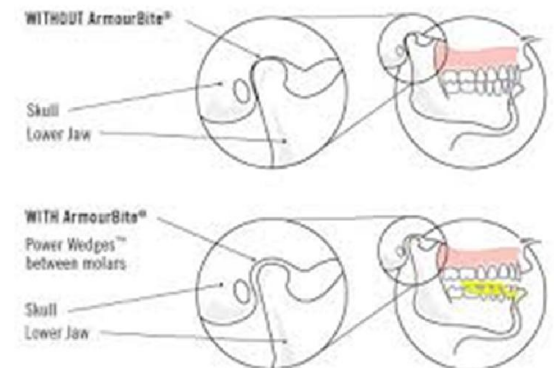
Mouth guards History

- * Existed for well over a century
- * Reed- late 19th century by a London dentist Woolf Ierouse
- * Gutta perch – boxers (lip laceration and other soft tissue



Function of Mouthguards

- 1) Preventing tooth injuries
- 2) Shielding the lips, tongue and gingival tissues from laceration
- 3) preventing opposing teeth from coming into violent contact
- 4) Providing the mandible with resilient support which absorbs an impact that might fracture the unsupported angle or condyle of the mandible
- 5) Prevents neck and cerebral brain injuries



Types of mouthguards

- * Stock –prefabricated “off-the-shelf”
- * Mouth formed “boil and bite”
- * Custom-made “custom”



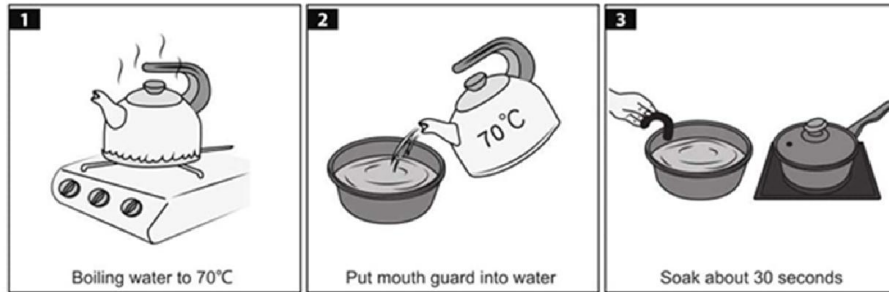
Stock-prefabricated

Made:

- * rubber
- * Plastic materials
- * Available in two or three size



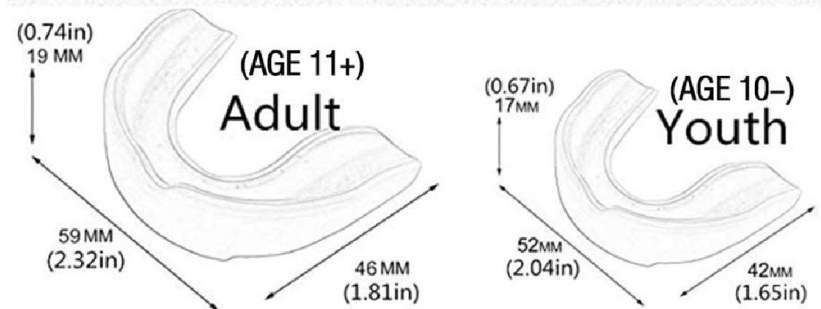
Mouth- formed mouthguards



TIPS:

1. NEVER use boiled water, or the mouth guard will be melted.
2. Don't bite the mouth guard with too much strength or it will be broken when built shape.
3. It can be rebuilt shape if it not comfortable.

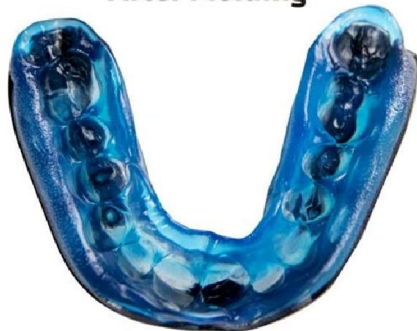
REPEAT THE STEPS TO MAKE THE PERFECT FIT IF IT DOESN'T FIT WELL.



Before Molding



After Molding

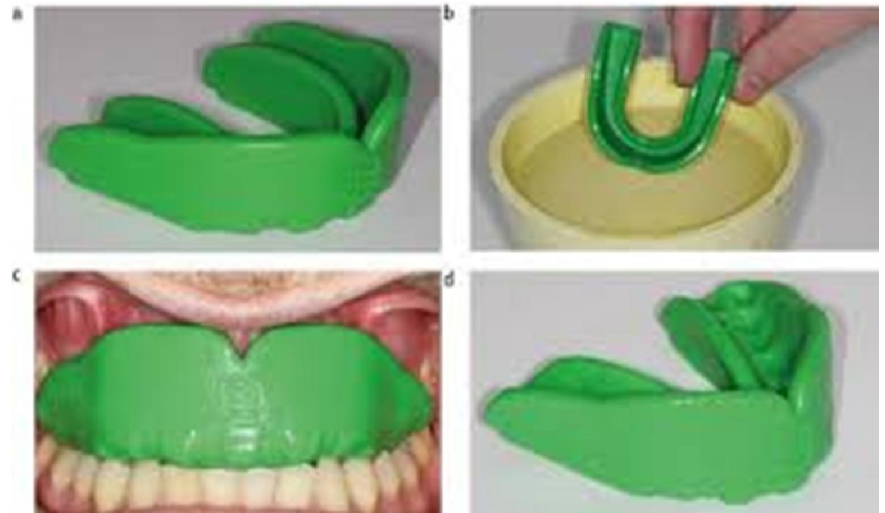


Sizing: Mouthguards

US SIZE	AGE
YOUTH	10-
ADULT	11+

IMPORTANT

Mouthguard will expand up to 20% during the molding process and may be too small if not molded properly. Follow fitting instructions to ensure the best fit.



- ✓ **EVA material**
- ✓ **Custom Fit for kids**
- ✓ **Odourless and Non-toxic**
- ✓ **Boil and bite technology**
- ✓ **Designed for most contact sports**
- ✓ **Humanized Breathing holes**

Equipped with toothguard
box for cleaner storage

Food grade environmental
EVA material

Soft Material, Safe
and Comfortable



Video Clip

Custom mouth guards

3 groups of materials are used

molded vulcanized rubber – latex rubber-resilient acrylic resins

* Ethylene vinyl acetate **EVA**

EVA

- * Elastomeric softness
- * flexibility
- * Easily processed good clarity and glass
- * Barrier properties
- * Low temperature toughness
- * Barrier properties
- * Stress-crack resistance
- * Little or no odor



Actual performance of a mouthgaurd

- * Material used
- * Design – thickness-manner of impact



Wear and tear will affect all mouthguards

suggested replaced regularly

- * 1) lack of fit
- * 2) Reduction of protective properties

☐ contamination



Fabrication of custom mouthguards

- * 1) The mouth guard should be made of resilient materials which can be easily washed cleaned and readily disinfected.
- * 2) It should have adequate retention to remain in position during sporting activity and should allow for a normal occlusal relationship to give maximum protection
- * 3) it should absorb and disperse the energy of a shock by:
 - * - covering the maxillary dental arch
 - * - excluding interferences
 - * - reproducing the occlusal relationship
 - * - allowing mouth breathing and
 - * - protecting the soft tissues



The key for functionality is selection of a stock that fits the arch

Common pitfalls in making mouth – formed

- * mouthguards size at least one molar tooth on each side
- * adaptation
- * Trimming of the mouthguard

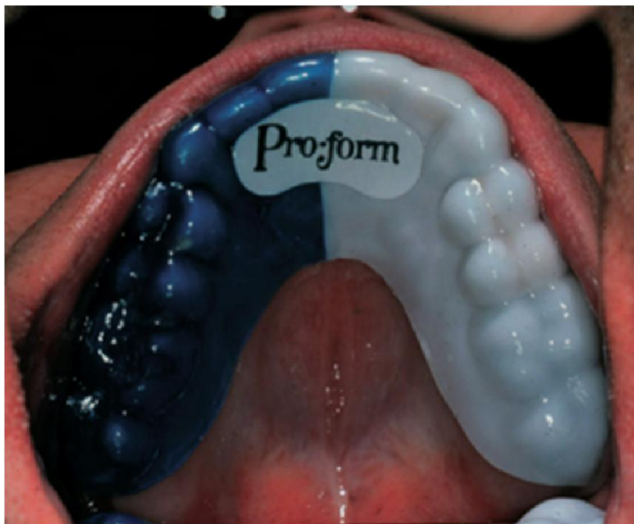


Custom mouthgaurs

alginate

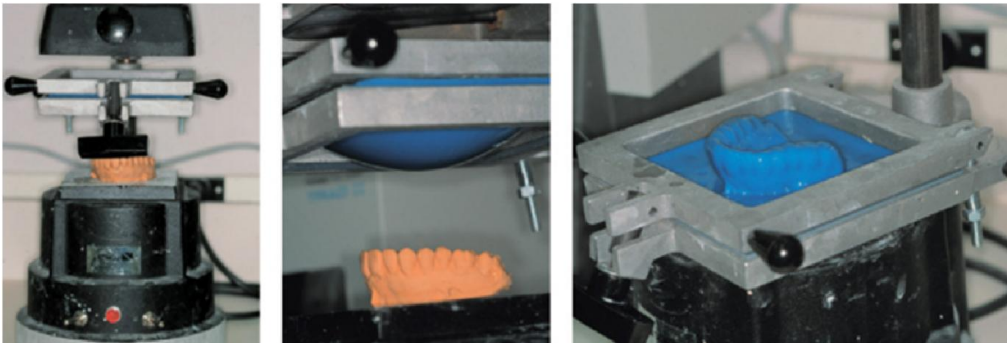
Mandible in a physiological rest position

Very important

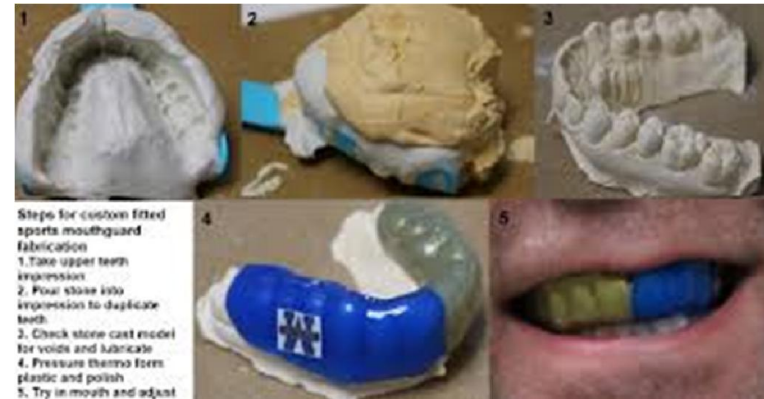


The best fit

- * - working cast was thoroughly dried
- surface temperature was elevated



Prefabricated double layered mouthguard stock plate.

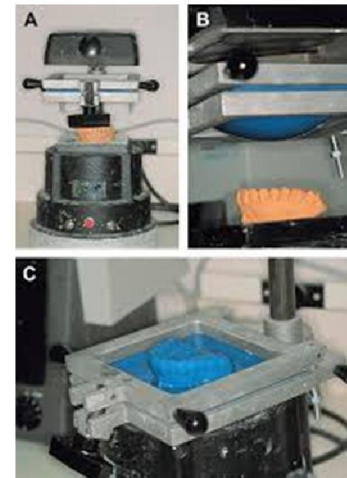


Two basic methods at fabricating a custom mouthgawrd

- * First: traditional vacuum suction machine

- * Second method

Positive pressure machines such as Druformat, Erkopress- 2004 or Biostar



Finally

- * A sports guard or mouth guard protects your smile while playing contact sports.
- * A night guard stops you from grinding or clenching teeth while you sleep.



