

Hard vs. Soft Nightguard

A discussion among dental professionals on the message boards of Dentaltown.com. This is a timeless debate. Which do you prefer and why? What are your criteria for upper vs. lower? Log on today to participate in this discussion and thousands more.

uscdds95

Posted: 3/7/2007 ■ Post: 1 of 34
Total Posts: 112

I always make upper hard nightguards... but when do you make soft types? How about hard nightguards with soft internal? ■

The Admiral

Posted: 3/7/2007
Post: 2 of 34
Total Posts: 5602



Avoid soft – It can stimulate an increase in bruxism. You can use hard outside with a bit of soft inside, but make sure the soft is only in undercut areas and not over the occlusal surfaces. A squishy feeling can be counter productive.

As far as upper vs. lower, that's your choice. Remember, a nightguard is a removable occlusal scheme. You can make that difference by using either arch. Sometimes it's easier to accomplish on one arch than the other. I tend to prefer a lower arch for most cases. Aside from issues of contacts and canine clearance, I've noticed that the appliance is easier to see and adjust on the lower too. ■

Uwe Mohr, MDT

Posted: 3/7/2007
Post: 3 of 34
Total Posts: 3157

I agree with Kirk.
Hard nightguards.

A soft one is just a sophisticated chewing gum and should only ever be worn for sports, etc., and short periods of time.

Lowers seem to be more accepted, especially when you have to create canine rise/discusion, since that can sometimes introduce the Dracula look on uppers. ■

bc

Posted: 3/7/2007
Post: 4 & 5 of 34
Total Posts: 26

Stick to the hard nightguard. Remember that the idea of a device for grinding is to act as a mechanical muscle relaxer. You remove the intercuspation by providing a relatively smooth surface that allows free movement of the mandible, which in turn allows the TMJ to migrate to the proper position.

A soft nightguard just gives the patient more friction and grip for bruxing so it increases muscle activity and related muscle soreness.

[Posted: 3/7/2007]

BTW [by the way], Glidewell makes a really nice nightguard that has a hard external surface and a relatively soft internal surface. They call it their "Hard/Soft Comfort" nightguard. Excellent fit, minor adjustments and pretty cheap at \$67. They're the best I've found. ■ [Brent Cornelius, DDS, FAGD](#)

mikepa

Posted: 3/7/2007
Post: 6 of 34
Total Posts: 591

I've done several of the hard/soft guards from Glidewell. I like what I've seen so far. They also put out an article on how to take a bite with the teeth open by a cotton role and injecting some Blue Mousse (my choice) to try and produce a more accurate relationship. I tried it on the last one and resulted in a lot less adjusting. ■

continued on page 20

Steven D Bender DDS

Posted: 3/8/2007
 Post: 7 of 34
 Total Posts: 2395



Besides the issues Kirk expressed concerning the soft nightguards (or hard/soft), a key thing to remember is that the soft internal aspect of these types of appliances is almost impossible to realign. An accurate fit is essential for appliance success. Choosing the arch to place your appliance depends on things such as missing teeth, incisal edge position, and leveling of occlusal plane both from the curve of Wilson and Spee viewpoints. With all things being equal, one has not proven to be superior over the other. ■
 Steven D Bender DDS

Uwe Mohr, MDT

Posted: 3/8/2007
 Post: 8 of 34
 Total Posts: 3157

As said before, the nightguard needs to have a positive occlusal stop or else it's mojoining up and down while it's supposed to function.
 Only in a definite position can the corrective effect be achieved.
 Ever wonder why ortho appliances don't have a soft fitting surface? Bingo. Function needs to be performed at the right interface, not something that moves out of the way every time it is loaded. ■

Just Miguel

Posted: 3/8/2007
 Post: 9 of 34
 Total Posts: 17870



Steve – Who did that study that showed that soft guards actually increase bruxing in bruxers? That guy from Quebec, I always forget his name... ■ Michael J. Melkers, DDS, FAGD, FWAS

conestoga

Posted: 3/8/2007
 Post: 10 & 11 of 34
 Total Posts: 1024

Okeson, J.P., *The effects of hard and soft occlusal splints on nocturnal bruxism*. J Am Dent Assoc, 1987. 114(6): p. 788-91.

Occlusal splints are commonly used for the treatment of nocturnal bruxism. This study investigated the effects of hard and soft occlusal splints on nighttime muscle activity. The nocturnal muscle activity of 10 participants was recorded while wearing a hard and then a soft occlusal splint. The hard occlusal splint significantly reduced muscle activity in eight of the 10 participants. The soft occlusal splint significantly reduced muscle activity in only one participant while causing a statistically significant increase in muscle activity in five of the 10 participants.

[Posted: 3/8/2007]

al-Quran, F.A. and M.F. Lyons, *The immediate effect of hard and soft splints on the EMG activity of the masseter and temporalis muscles*. J Oral Rehabil, 1999. 26(7): p. 559-63.

The aim of this study was to compare the effects of hard and soft splints on the activity of the anterior temporalis and masseter muscles. Surface EMG recordings were made from these muscles during clenching at 10 percent of maximum, 50 percent of maximum and at maximum clench, both before and after insertion of a hard splint. This sequence was then repeated with a soft splint. The relative level of activity in the anterior temporalis and masseter muscles at all three activity levels was quantified by means of an Activity Index, which provides a measure of the balance of activity in the masseter relative to the activity in the anterior temporalis muscle. It was found that hard splints led to a decrease in EMG activity in relation to activity with no splint in both muscles at maximum clench and particularly the anterior temporalis. Soft splints produced a slight increase in activity of both muscles, but particularly the masseter muscle. The Activity Index indicated a shift in the balance of activity away from the anterior temporalis muscles with both splints, particularly

at 10 percent of the maximum clenching level. It is possible that the decrease in activity of the temporalis muscles relative to the masseter muscles may be a factor in the therapeutic effect of both a hard and a soft splint, although the decrease is clearly greater with the hard splint. ■ Donald L. Malizia, DDS

teddy

Posted: 3/8/2007 ■ Post: 17 of 34
Total Posts: 1243

I would stay away from the ones with the slightly soft internal. I tried them for a while and they last about two years. It would have been nice to know this ahead of time. I am now remaking them one-by-one as they return for recalls. ■

toofy

Posted: 3/10/2007 ■ Post: 18 of 34 ■ Total Posts: 31

Let's remember... there are three ways to go here... hard, soft and bi-laminated. Hard – good, soft – bad and bi – depends on how it's made. ■ Toof

Drjulie

Posted: 3/13/2007 ■ Post: 19 of 34 ■ Total Posts: 4

What do you all think about the nightguards that only cover teeth numbers 6-11? ■

The Admiral

Posted: 3/13/2007
Post: 20 of 34
Total Posts: 5602



Which teeth are covered is not nearly as important as which teeth contact. ■

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Drjulie

Posted: 3/13/2007
Post: 21 of 34
Total Posts: 4

I made a nightguard for myself that is from 6-11, and occludes on the NG [nightguard] evenly on those teeth. The posteriors are completely discluded. I found that my masseter muscles are much more relaxed than with the full arch NG. Do you know of any good articles on full arch vs. partial arch? ■

Just Miguel

Posted: 3/13/2007
Post: 22 of 34
Total Posts: 17870



Should work out great – almost just like an NTI. What happens in excursions – which teeth contact? The centrals will give you about 30 percent temporis activity, the laterals about 45 percent and the canines about 75 percent in a clench. Glad it is working out for you. Keep us posted. ■ Michael J. Melkers, DDS, FAGD, FWAS

brettmansfield

Posted: 3/13/2007
Post: 23 of 34
Total Posts: 283

Come on. Who's going to prefer a soft one over a hard one? And we digress. Seriously, I make hard splints 100 percent of the time. They are almost

always uppers and almost always 6-11. Patients love them. They are easy to fabricate, easy to adjust, easy to reline if needed. You can fabricate them in one appointment in-office, or take a couple impressions and have the lab do it. Just remember that they are only to be worn at night. If it's a splint designed to be worn 24 hours a day, it needs to be full coverage, otherwise you'll get posterior supereruption. Same goes for someone with joints which cannot be loaded. Full coverage only.

Miguel, I make mine with centric contact on all six anteriors, lateral contact on canines, and protrusive contacts on centrals, usually. Sometimes you get someone with poorly aligned lower anteriors which makes life a bit more challenging. ■

Just Miguel
 Posted: 3/13/2007
 Post: 24 of 34
 Total Posts: 17870



Canine initiated disclusion with rapid and immediate transition to crossover... full or partial, the principles need to apply and they are so for decreasing muscle specific temporal activity. I think anterior sixes are cool. Rock on! ■ [Michael J. Melkers, DDS, FAGD, FWAS](#)

cameron28
 Posted: 3/29/2007
 Post: 25 of 34
 Total Posts: 38

I have been diagnosing NG for grinding patients and so on, until I became one of them. I asked my lab to fabricate one upper hard night guard for me. First night that I put it on, I couldn't sleep for more than five minutes. Since I was so tired I just threw it across the room and I haven't worn it since. I have gotten worse and more than anybody can imagine. My jaws hurt, even my gums hurt. Yes I am a dentist and I can't help myself. So I confess I need help. ■

ithomson
 Posted: 4/19/2007 ■ Post: 27 of 34
 Total Posts: 220

I know the feeling mate. I did the same thing. Eventually I had a soft one made which I wore for two weeks until I could sleep the night through, and after that switched back over to the hard one. After a night or so... zzzzzzzzzzzzz. ■

broadwell
 Posted: 7/28/2007
 Post: 29 of 34
 Total Posts: 1503



I have a question about this. When I go through excursive on my splint, I don't just move lateral or protrusive – I can go anywhere in between also. So, how in the world can I fabricate a full coverage splint with an anterior ramp with lateral canine disclusion with protrusive incisal disclusion? I know I can cut a notch that will clear the canines in strictly straight protrusion, but I don't think most patients nocturnally parafunction that way. Comments please. This is quite interesting to me. ■ [Brian Broadwell, DDS, MBA, FAGD](#)

drhong
 Posted: 8/5/2007
 Post: 30 of 34
 Total Posts: 1

Is canine disclusion better than balanced occlusion? I don't fabricate NG's because I really haven't had any training or education about them in dental school and I'm afraid I'll do more harm than good. Any recommendations on courses on the West Coast? ■

SpaceMaintainersLab
 Posted: 8/28/2007 ■ Post: 31 of 34
 Total Posts: 2

Great questions everyone! Here is a link to a bulletin on the subject. I think some of your questions will be answered in here – and others maybe not – but it is certainly a good place to start to learn more about splints and why you

should/should not use a soft/hard splint.
www.appliancetherapy.com/Global_Center/sml/pdf/PBB3_TALON_SPLINT.pdf ■

Steven D Bender DDS

Posted: 8/28/2007

Post: 32 of 34

Total Posts: 2395



There are many good studies that indicate canine guidance is about the same as group function in respect to muscle EMG [electromyography] activity.

On the West Coast you should go see Jim Boyd. He knows more about appliance therapy than most will give him credit for. Trust me, it's not marketing fluff, he knows his stuff.

Don't worry too much what you or anyone can do on a splint while awake. Nocturnal parafunction will be unique for each patient and typically unlike the normal patterns we have patients go through during adjustments. This is why an anterior guided disclusion with any movement is best for most all patients. I have found the NTI to be the best instrument to achieve this. If you are set on doing some type of full arch appliance, keep all guidance on the central incisors. ■ Steven D Bender DDS

Find it online at www.dentaltown.com

Read the rest of the conversation and add your comments on www.docere.com. Type in "Hard vs. Soft Nightguards" in the search box and click, "Search." ■

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— Jerome Smith, DDS, Lafayette, Louisiana

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