In Practice
Step by Step / Tech Profile

Prior to the use of acrylic denture bases in the 1930s, complete dentures were made of vulcanized natural rubber and were somewhat resilient during chewing. Acrylics are much harder and inflexible, making dentures more difficult to wear, pinching the delicate tissues of the mouth between hard acrylic resin and the underlying residual bone. A number of resilient lining materials have been used against acrylic denture bases, but each has some drawbacks. Phthalate- or alcohol-plasticized acrylics bond well to the denture but harden in days or weeks because they lose plasticity. On the other hand, silicone rubbers remain resilient but do not bond as well, have a low mechanical storage modulus, and in many patients, grow fungus within pores in the bulk material, after antifungal agents have leached away. Polyurethane or vinyl polymers require more complex processing conditions, special equipment, have higher hardness, absorb environmental colorants, and also promote fungal growth.

The National Institute of Dental and Craniofacial Research listed the development of improved resilient lining materials as a goal for many years, and supported the creation of Novus at Gulf South Research Institute in New Orleans. It was determined that polyphosphazene (a semi-organic polymer) would be a good candidate as a resilient soft liner for dentures. Polyphosphazene was found to be nearly ideal due to its biocompatibility, energy absorption, acceptance of fillers and pigments, compatibility with an interpenetrating network of di- and tri-functional cross-linking acrylic monomers, and its ability to be compounded at various levels of hardness. The one-part material is designed to be cured without mixing at temperatures common to a dental laboratory, such as compression at 20.7 MPa (3000 psi) and heating up to boiling water temperature.

Unlike other resilient dentureliners, Novus does not harden like plasticized acrylics and needs no periodic surface coating to restrict the migration of toxic plasticizers. It is passive to fungus overgrowth, requiring no periodic antifungal treatments, unlike silicone and urethane materials. Novus has low surface tension with excellent wetting and offers permanent softness, with a Shore A durometer between 35 and 45 and no plasticizers to leach out. It uses standard dental laboratory compression-molding processing steps, and the single-component paste has an unlimited shelf life, if refrigerated.

The Novus laboratory-cured complete denture liner is shock-absorbent during chewing, offering more patient comfort with fewer adjustments and is resistant to surface and sub-surface fungal growth so that there is no fouling, odor, or stain. The material is moldable around overdenture abutments or implant heads and bars to provide denture retention, stability, and support, and allows denture movement toward the abutments and tissues. Novus has low surface tension with excellent wetting and offers permanent softness, with a Shore A durometer between 35 and 45 and no plasticizers to leach out. It uses standard dental laboratory compression-molding processing steps, and the single-component paste has an unlimited shelf life, if refrigerated.

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The Novus Definitive Resilient Denture Liner has three package sizes available to produce five, 15, and 45 dentures.
Finally, a denture liner that will perform ... and last long-term!

**NOVUS™** Definitive Resilient Denture Liner

- Permanent resiliency over extended time
- Bonds chemically to acrylic denture base resins
- Processed, packed and cured using conventional lab processing procedures
- Can be trial-packed
- Can be molded around implant, bar and overdenture abutments
- Resistant to fungal growth

Whether it is a new denture or a reline of an existing denture, denture wearers will appreciate the long-term benefits of improved fit, function and comfort in their denture when Novus™ Definitive Resilient Denture Liner is applied to their denture.

**NOVUS™ Available NOW!**

Call your local dental supplies dealer, or Lang Dental directly to learn how to get started with the definitive answer to improving denture wearers comfort and function ... improving their lives, and the care they receive from their dental professional.

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