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# Concerning Paraformaldehyde- Containing Endodontic Filling Materials and Sealers

## AAE Position Statement

The American Association of Endodontists (AAE) is dedicated to maintaining the highest quality of care in the practice of endodontics. As part of that dedication, the AAE actively supports the use of safe and effective materials in connection with root canal treatment. The AAE recognizes that legitimate differences of professional opinion may exist as to the “safest” or “most effective” material for a specific patient or specific circumstances. In recognition of those legitimate differences of professional opinion, the AAE does not endorse the use of specific materials. However, the AAE does recommend against the use of paraformaldehyde-containing materials as they have proven to be both unsafe and ineffective.

Paraformaldehyde-containing endodontic filling materials or sealers (frequently known as Sargenti pastes, N-2, N-2 Universal, RC-2B or RC-2B White) should not be used for endodontic treatment because those materials are unsafe. Paraformaldehyde-containing filling materials and sealers can cause irreversible damage to tissues near the root canal system resulting in destruction of connective tissue and bone, intractable pain, paresthesia and dyesthesia of the mandibular and maxillary nerves, and chronic infections of the maxillary sinus. Moreover, scientific evidence has demonstrated that the damage from paraformaldehyde-containing filling materials and sealers is not necessarily confined to tissues near the root canal. The active ingredients of these filling materials and sealers have been found to travel throughout the body and have been shown to infiltrate the blood, lymph nodes, adrenal glands, kidney, spleen, liver and brain.

The guidance in this statement is not intended to substitute for a clinician’s independent judgment in light of the conditions and needs of a specific patient.

Public health concerns and litigation have made the AAE aware of a significant number of patients who have suffered injuries as a result of treatment with paraformaldehyde-containing filling materials and sealers. Undoubtedly, there are many other patients who have also suffered injuries because of these materials, but whose injuries have not been publicly disclosed.

Safe and effective root canal filling materials and sealers are available. In light of the availability of safe and effective alternatives, the American Association of Endodontists recommends against the use of paraformaldehyde-containing filling materials or sealers because the use of such is below the standard of care for endodontic treatment.

## References

1. Brodin P, Roed A, Aarg H, Orstavek D. Neurotoxic effects of root filling materials on rat phrenic nerve in vitro. *J Dent Res* 1982; 61: 1020-3.
2. Block RM, Lewis RD, Hirsh J, Coffey J, Langeland K. Systemic distribution of N2 paste containing 14Cparaformaldehyde following root canal therapy in dogs. *Oral Surg Oral Med Oral Path Oral Radiol* 1980; 50: 350-60.
3. Hata G, Nishikawa J, Kawazocs, Toda T. Systemic distribution of 14C labeled formaldehyde applied in the root canal following pulpectomy. *J Endod* 1989; 15: 539-43.

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