ALF for Trauma Release

Indications, Limitations, and Statement of Non-Indication

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Purpose of this document

This document states the indications and, more importantly, the explicit non-indications for one appliance design within the ALF family: the ALF for Trauma Release.

It exists because a single design being applied outside its intended purpose is the most common source of both poor outcomes and legitimate criticism of ALF Therapy. Where an appliance is used for something it was not designed to do, the resulting failure is a failure of application, and it should be possible for any clinician — including one who has never taken a course with us — to establish that by reading a public document.

This is a statement of design intent and limits. It is not a technique manual, and it is not sufficient instruction for clinical use.

A note on what can and cannot be published

A standardized design specification for ALF appliances would be misleading. Each appliance is customized to the individual patient and to the treating provider's approach. There are commonalities — omega loops, cuspid crescents, molar cribs — but there are more differences than there are standards.

Design selection also cannot be reduced to a chart. It depends on assessment of the individual patient, and the attempt to simplify that selection is, in our view, part of how one appliance came to be used for nearly everything. What can responsibly be published is this: the component vocabulary, the objective each design serves, and the statements of what a design is explicitly not for. That is what follows.

Design summary

The ALF for Trauma Release is a maxillary single-cribbed design within the ALF family. Its distinguishing components:

- An 025 body wire, with anterior and posterior omega loops placed as close as possible to the cribs on the first molars.
- Buccal omega extensions, used to influence the maxilla — and indirectly the palatine bones — through stimulation at the second molars. This is the component that distinguishes this design from the ALF for Development, which uses lingual extensions for a different purpose.
- Cuspid crescents — a signalling component, described in detail below.

It is utilized almost exclusively in patients aged twelve and older, and is rarely indicated in the six to eleven population.

Statement of non-indication

> **This design is not indicated for arch development. It must not be used to perform arch development.**

This is not solely The Synergy Academy's position. Dr. Nordstrom, who originated this design, has consistently held that it should never be used for arch development. We state it here because it has not previously been published in a form that could be cited.

This is not a caution or a relative contraindication. It is a statement of what the appliance is not built to do. The buccal omega extensions in this design serve a signalling objective. Configuring or activating them with the intent of producing transverse or anteroposterior arch change is a use outside the design's purpose.

Where a treatment objective calls for arch development, a different design within the family is indicated. Selection of that design depends on patient assessment and is addressed in instruction rather than in this document.

The cuspid crescent, and why it is not a tooth-moving component

The cuspid crescent is the component most often misunderstood, and the misunderstanding has clinical consequences, so it is described here in full.

A crescent contacts the tooth on the lingual surface, below the height of contour on the cingulum of the cuspid. That is substantially lower than an orthodontic bracket, which sits out on the middle of the labial clinical crown. The point of force application is therefore several millimeters closer to the tooth's center of resistance, and for the same magnitude of force the moment arm — and so the torque delivered to the crown — is much smaller.

The component's purpose is not movement. It is stimulation, and it is placed on the maxillary canine because that tooth carries the longest root and the largest periodontal ligament surface of any single-rooted tooth in the human head, set in the thickest cortical bone of the upper arch. The canine is selected over the incisor not because greater force is required but because it provides margin: incisors are delicate, and a component intended to signal should not be placed where a dose past its intended range would do harm.

Anterior flaring associated with this component is a consequence of use outside its purpose — of activation intended to produce movement rather than to deliver a signal. It is a failure of application, not a limitation of the design. Two tools may look alike and work differently; using a straight-edged screwdriver on a Phillips screw damages the screw and tells you nothing about the screwdriver.

Why a signalling component is expected to do anything

A reasonable question about any appliance delivering force below the threshold of tooth movement is what it is delivering instead. The answer rests on a body of primary literature that is not widely taught in dentistry, and it is set out here so that it can be evaluated directly rather than taken on assurance.

The dentition is a sensory surface before it is a mechanical one.

Human periodontal mechanoreceptors show their greatest sensitivity to force magnitude and to change in force at contact levels below approximately one newton for anterior teeth, several times higher for posterior teeth.

Above those levels the afferent response saturates: additional force produces progressively less additional information. Trulsson, Clinical and Experimental Pharmacology and Physiology 2005;32(1–2):119–122. [FINDING]

That sensitivity has demonstrated behavioral consequence. In a hold-and-split task, subjects with intact dentition held a morsel at an average of 0.59 N, while subjects without periodontal receptors — complete dentures or implant-supported prostheses — used 2.21 N and 2.63 N, with greater variability and more frequent loss of the morsel. The force at which the morsel was split did not differ between groups. The deficit is specific to low-force manipulation, not to power. Trulsson & Gunne, Journal of Dental Research 1998;77(4):574–582. [FINDING]

These afferents reach the brainstem by an unusual route.

The mesencephalic trigeminal nucleus is the only primary afferent cell population housed within the central nervous system rather than in a peripheral ganglion. It carries proprioceptive input from jaw-closing muscle spindles and from periodontal receptors. Primate tracing places incisor periodontal afferents in denser representation within this nucleus than canine or molar. Archives of Oral Biology, PMID 9447257. [FINDING]

Trigeminal afferent input reaches brainstem autonomic structures, and does so with clinical consequence: the trigeminocardiac reflex — afferent stimulation producing bradycardia, hypotension and apnea — is documented in the surgical and anesthesia literature as an intraoperative hazard with its own monitoring guidance. [FINDING]

Trigeminal, visceral and vestibular input has been proposed to influence cortical and autonomic function through the locus coeruleus and the ascending reticular activating system. De Cicco et al., Frontiers in Neuroanatomy 2017 — a hypothesis paper, and cited here as one. A published model in Sleep and Breathing further proposes that this nucleus governs the availability of arousal-system neurotransmitters during sleep. Andrisani & Andrisani, Sleep and Breathing 2023;27:2111–2122. [MODEL]

What follows from this, and what does not.

What follows is that the anterior dentition constitutes a high-resolution, low-force sensory channel with a direct central route, and that a component contacting a tooth at a force below the threshold of movement is loading that channel rather than failing to move a tooth. That is the design intent of a signalling component, and it is why activation intended to produce movement defeats rather than amplifies it.

What does not follow is that any particular clinical outcome results. That trigeminal signalling delivered by an intraoral component produces measurable change in patient function is the position on which this therapy rests, and it is a hypothesis. It has not been demonstrated in a controlled trial, and we do not represent it as having been. The evidence above establishes the sensory anatomy and the central route; it does not establish the clinical effect.

We state that distinction rather than obscure it, because the alternative — asserting mechanism as though it were outcome — is a substantial part of why appliance therapy of this kind is treated with suspicion.

Activation vocabulary

Two levels of omega loop activation are described in written materials, and the distinction between them is the distinction this document exists to protect:

— Minimal — comparable to bumping a tire. The intent is neurological signalling.

— Moderate — bending the wire with the intent of producing structural change.

In the ALF for Trauma Release, the objective is signalling. Activation intended to produce structural change is outside the design's purpose.

What this design is for

The objective of this design is neurological signalling. Its buccal omega extensions are configured to influence the maxilla, and indirectly the palatine bones, through stimulation at the second molars; its cuspid crescents deliver signal at the anterior. It is applied almost exclusively in patients aged twelve and older.

Beyond that statement of objective, selection is individualized. It depends on the assessment of the particular patient and on the training and clinical judgment of the treating provider, and it is not reducible to a chart. We state this plainly rather than publishing a selection algorithm, because the attempt to simplify appliance selection is, in our view, part of how a single design came to be applied to nearly every presentation.

Individualized selection is not the same as unrestricted selection. The statement of non-indication above is absolute and is not subject to provider judgment.

Contraindications to ALF Therapy

The following apply to ALF Therapy generally and are not specific to this design.

— Active dental decay. Treatment does not begin until disease is under control, and treatment may be terminated if the rate of decay cannot be controlled.

— Moderate to advanced periodontal disease. The same timing rule applies.

— Tooth mobility.

— Insufficient teeth to support dental appliance wear.

— Neurological conditions not under control with medication or therapy as monitored by a physician.

Limiting factors that require discussion rather than exclusion:

— Hygiene demands and the potential for non-compliance.

— Wire alloy is Elgiloy, which contains a very small amount of nickel. Most patients report no adverse reaction. Allergy testing may be performed beforehand where a patient has a concern.

— Bisphosphonate therapy. Medical clearance is recommended.

Known complications and adverse events

— Appliance breakage, a known risk arising from metal fatigue and from fatigue or damage to acrylic or essix components.

— Soft tissue trauma, which is a reality of dental appliance wear generally and is not specific to this design.

— Decalcification, resulting from poor hygiene.

— Failure to progress, through non-compliance or through absence of the tongue function required for biomechanical change.

— Loss of a cribbed tooth during treatment, which may require redesign or termination of care.

Statement of claims

> **ALF Therapy supports improvements in sleep quality yet does not claim to cure anything. It promotes a more ideal environment for the body to heal itself.**

ALF Therapy does not claim to treat sleep apnea. Where sleep-disordered breathing is suspected, evaluation and diagnosis are the responsibility of a qualified physician, and management of a diagnosed condition remains with the treating medical provider.

Provider qualification

This document describes design intent and limits. It does not constitute instruction sufficient for clinical use, and reading it does not qualify a clinician to fabricate, prescribe, deliver or adjust this appliance.

Education in the use of this design is delivered through The Synergy Academy, as part of the NeuralFORM platform. Providers certified through The Synergy Academy are qualified to deliver this design. Certification is the basis on which we are able to attest to a provider's training across the Synergy ALF family of appliances, Synergy AIR, and the NINJA devices. Instructional resources supporting these designs are published through NeuralFORM.

We make no representation as to the training of any clinician who is not certified through The Synergy Academy, including clinicians who deliver appliances described by the same or similar names.

Laboratory fabrication is not restricted. This document addresses clinical indication and delivery, not the manufacture of the appliance.

Attribution and trademark

The ALF appliance was originated by Dr. Darick Nordstrom. That attribution is stated as a matter of record and is independent of any endorsement, by him or of him, of the material in this document.

The ALF for Trauma Release configuration described in this document is his design in full. The Synergy Academy did not originate it and does not claim to have done so.

Other designs — Synergy AIR among them — are hybrids. They incorporate components derived from Dr. Nordstrom's work together with components created by Dr. Tenholder, and are taught by her through The Synergy Academy. Those designs are identified as hybrids in the materials describing them and are not represented as his.

The statement of non-indication in this document reflects Dr. Nordstrom's consistent position on his own design. The remaining indications, limits and mechanistic account are The Synergy Academy's teaching standard, published under our name and our responsibility.

How to cite this document

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> *TO BE COMPLETED: the stable URL at which this document will live. It should be a permanent address that will not change between versions, since the purpose of this document is that other people can cite it.*

Revision history

Version 1.0 — 9 September 2026 — first publication.
