

Traumeel[®] S

Physiological Regulating Medicine

Introduction

Traumeel[®] S is a broad spectrum, low concentration, combination preparation, manufactured by Biologische Heilmittel Heel GmbH, Baden-Baden, Germany.

Traumeel[®] S was developed by the renowned German physician, naturopath and homotoxicologist, Dr. Hans-Heinrich Reckeweg (1905-1985). Traumeel[®] S, available in Germany since 1937, is one of the most popular and complete low concentration medications in Europe today, voted No.1 injury product in Germany by the Pharmacist Association in 2001, 2002 and 2003.⁽¹⁾

Traumeel[®] S is an anti-edematous, anti-exudative, anti-inflammatory analgesic composed of biological and mineral substances.⁽²⁾

Traumeel[®] S: The Nano-Pharmacological Approach

Traumeel[®] S has been in worldwide therapeutic use for more than 40 years by general practitioners, chiropractors, dental surgeons, naturopaths, homotoxicologists, sport doctors, pediatricians, plastic surgeons and veterinary doctors.

Traumeel[®] S has been shown to:⁽³⁾

- be compatible with allopathic remedies
- be compatible with local anesthesia
- be an effective anti-inflammatory/analgesic
- no platelet aggregation inhibition.
- no known adverse drug interactions
- no sodium and fluid retention
- a safe and effective alternative to NSAIDs
- cause no known adverse renal, hepatic, gastro-intestinal or CNS side effects
- safe for children

Constituents

Traumeel[®] S is made up of a combination of 12 botanical and 2 mineral substances.

Traumeel[®] S is available in drops, tablet, ampoule (for injection or sublingual use) or ointment dosage forms. The constituents of Traumeel[®] S are listed in Table 1.

	<u><i>Drops / Tablets / Ointments</i></u>
1	Achillea Millefolium (milfoil)
2	Aconitum napellus (monkshood)
3	Arnica Montana (mountain tobacco)
4	Atropa belladonna (deadly nightshade)
5	Bellis perennis (daisy)
6	Calendula officinalis (marigold)
7	Chamomilla recutita (chamomile)
8	Echinacea angustifolia (narrow leaved cone flower)
9	Echinacea purpurea (purple cone flower)
10	Hamamelis virginiana (witch hazel)
11	Hepar sulfuris (calcium sulphide)
12	Hypericum perforatum (St. John's Wort)
13	Mercurius solubilis Hahnemanni (Hahnemann's soluble mercury)
14	Symphytum officinale (comfrey)

Table 1. – Traumeel[®] S combination preparation

When should you use/recommend Traumeel® S

Traumeel® S is recommended for use in the following conditions:

- muscular spasm (possibly in combination with Spascupreel, Colocynthis-Homaccord [lower-back], Cimicifuga-Homaccord [neck])
- severe infection (possibly in combination with Arnica-Heel & Echinacea Compositum)
- soft tissue rheumatism (possibly in combination with Neuralgo-Rheum-Injeel)
- degenerative joint disease (possibly in combination with Zeel Compositum and Glucosamine & Chondroitin)
- gout (possibly in combination with Lithiumeel and Abropernol)
- severe swelling and edema (possibly in combination with Apis Homaccord and Lymphomyosot)
- epicondylitis (e.g. tennis/golfer's elbow – acute anti-inflammatory)
- tendonitis (acute anti-inflammatory)
- sports injury (acute anti-inflammatory)
- osteoarthritis (during periods of flare-up)
- rheumatoid arthritis
- gouty arthritis
- ankylosing spondylitis
- backache (acute anti-inflammatory)
- bursitis or capsulitis (inflammation)
- carpal tunnel syndrome (chronic inflammation)
- pre- & post surgery (to minimize edema associated with trauma and with healing, without suppressing the inflammatory process or the associated immune response)

Mechanisms of Action:

Traumeel® S contains biological and mineral constituents which work in a synergistic and complementary manner (Re: Bürgi’s Principle^[i]).

1. Synergistic Effects

Antihomotoxic combination preparations are designed so that there is a synergistic effect between the different constituents. If we take inflammation as an example, the first phase in inflammation is called the neurogenic phase. Aconitum will have an action and modulate the inflammation in the neurogenic phase whilst also paving the way for the therapeutic agents active in the vascular phase, the next stage of inflammation.

Constituents in the vascular phase will in turn facilitate the action of Bellis perennis, which is active in the exudative phase and so on as detailed in Figure 1:

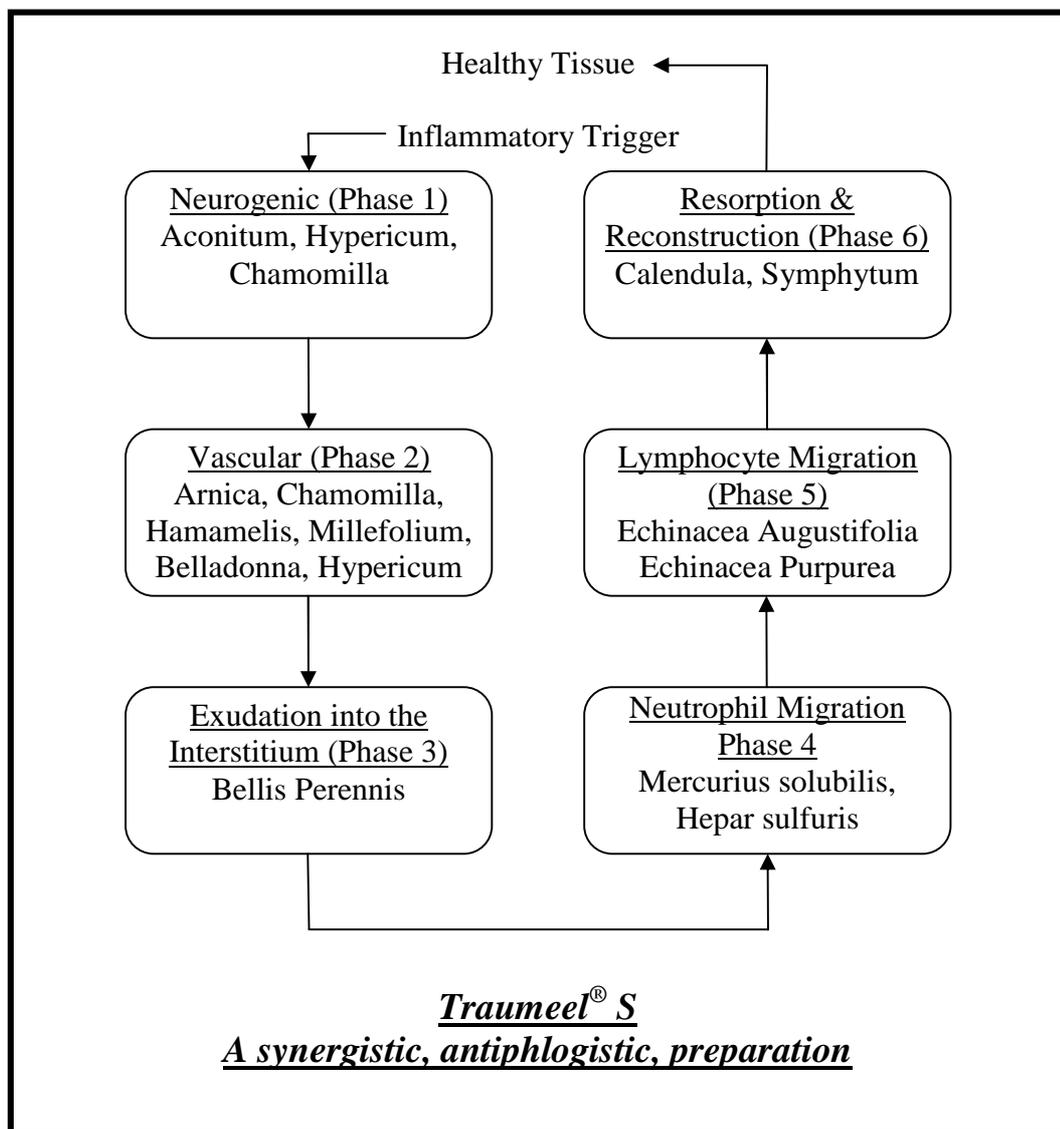


Figure 1

2. *Complementary Effects*

The constituents of Traumeel[®] S work in a complementary as well as a synergistic manner. The individual constituents of Traumeel[®] S have been developed to not only have a functional tropism for all the phases of inflammation but also an organ tropism for the different tissues affected in inflammation such as muscles, bones, tendons and ligaments, soft tissues and vessels and nerves.

The individual constituents of Traumeel[®] S complement each other in the reversal of the inflammatory process and also have individual actions on the different tissues involved in the inflammation.

Inflammation is characterised by the presence of heat, redness, swelling and pain, otherwise known by the Latin terms of calor, rubor, tumor and dolor. These signs may be followed by sepsis as a late resolution phase and also by scarring or callus formation.

The synergistic and complementary effects of the individual constituents of Traumeel[®] S are as shown in Figure 2.

3. *Anti-inflammatory Pharmacology*

Helenalin, a sesquiterpene lactone of *Arnica montana* and Traumeel[®] S, selectively inhibits activation of the transcription factor, nuclear factor – kappa beta (NF- κ B). NF- κ B is found in all cell types and is a central mediator of the human immune response, regulating the transcription of various inflammatory cytokines such as interleukin-1, -2, -6 and 8 and tumor necrosis factor alpha (TNF- α) as well as genes encoding cyclooxygenase II, nitric oxide synthase, immuno-receptors, cell adhesion molecules, hematopoietic growth factors and growth factor receptors.⁽⁴⁾ The inhibition of NF- κ B by Helenalin makes Traumeel[®] S a potent anti-inflammatory preparation.

NF- κ B usually exists as a heterodimer of p50 and p65 subunits bound to I κ B (inhibitor of κ B). Inflammatory ‘signals’ at the cell surface induce activation of I κ B-kinase an enzyme which phosphorylates I κ B and causes dissociation of the NF- κ B/ I κ B complex. The released NF- κ B heterodimer translocates to the nucleus and transactivates the expression of inflammatory cytokines.

Lyss G. et al⁽⁴⁾ have shown that Helenalin, derived from *Arnica*, directly interferes with NF- κ B DNA binding due to its alkylating activity. Helenalin selectively modifies the p65 subunit of NF- κ B, thereby inhibiting its DNA binding. Lyss G. et al⁽⁴⁾ have also shown that Helenalin can inactivate the active NF- κ B complex, an important property where previously activated NF- κ B is sustaining the inflammatory process and requires inactivating.

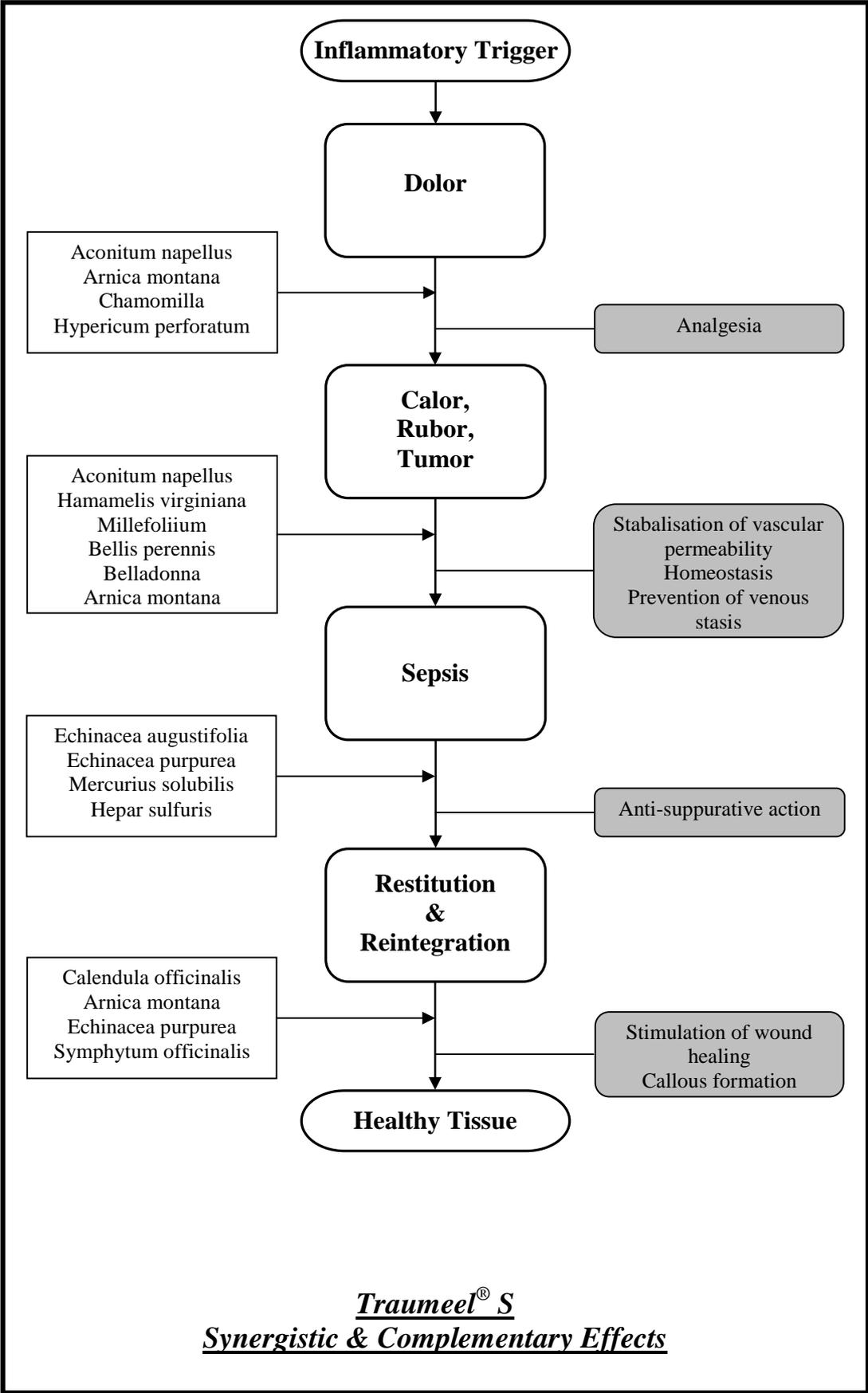


Figure 2

4. *Induction of Regulatory T-helper Cells*

Traumeel[®] S modulates inflammatory processes through a reaction known as the immunological bystander reaction.⁽⁵⁾ In simplified terms, the low to mid potency components of Traumeel[®] S stimulate macrophages to produce antigen motifs, which activate non-antigen specific lymphocytes to bind the motifs to their receptors and become Th3 regulatory lymphocytes. These Th3 cells home in to the nearest lymph node, where they multiply and are released into the bloodstream. When the Th3 lymphocytes lock into a similar motif they synthesize and release transforming growth factor beta (TGF- β) which decreases the activity of Th1 and Th2 lymphocytes, thereby quenching inflammation.

Pharmacological and Clinical Notes:

Achillea millefolium

Indicated for:

1. haemorrhages, especially precapillary arteriovenous (anastomosis, oozing haemorrhages)

Aconitum napellus

Indicated for:

1. fever with hot, dry skin
2. neuralgia
3. inflammatory rheumatism
4. improvement of the vasotonia
5. analgesic
6. haemostatic
7. extremely acute sensations in the heart, accompanied by anxiety

Arnica montana

To stimulate the healing of wounds, fractures, dislocations, contusions, haematomas, myocardial weakness, neuralgia, myalgia, analgesic, haemostatic, disorders of the venous and arterial system.

Arnica is the best-known folk-remedy for wounds, injuries, and contusions etc. of every kind and may also be used in concussion of the brain, distortions, bruises, fractures, haematomas etc. Likewise damage resulting from over-exertion is an indication i.e. the hearts of athletes who have over-trained.

Arnica patients also complain of a sensation of weakness, tiredness and general exhaustion. A specific symptom is that the bed feels too hard (Nash) and so he must be constantly be changing position.

Atropa belladonna

Indicated for:

1. localised reaction phases
2. cerebral sensitivity with cramp and delirium

Bellis perennis

Indicated for:

1. dislocations
2. contusions
3. sensations of soreness in the abdominal wall/cavity
4. exudative processes
5. resorption of oedema

Calendula officinalis

Indicated for:

1. slowly healing wounds
2. promotes granulation
3. analgesic

Chamomilla recutita

Indicated for:

1. anti-inflammatory
2. stimulates granulation
3. promotes healing in difficult healing wounds and ulcers
4. fistulae
5. haemorrhoids
6. mastitis
7. intertrigo
8. aphthous stomatitis
9. conditions of restlessness and excitation
10. disorders of dentition
11. otitis media
12. glandular swellings

Echinacea angustifolia

Indicated for:

1. increase in the mesenchymal defences
2. inflammation of all kinds and locations
3. septic processes
4. hyaluronidase inhibiting,
5. anti-inflammatory action

Echinacea purpurea

Indicated for:

1. activation of the histogenous and haematogenous defences in inflammatory processes and general infections
2. fibroblast-stimulating effect

Hamamelis virginiana

Indicated for:

1. venous stasis
2. varicose veins
3. crural ulcers
4. haemorrhoids
5. venous haemorrhages
6. anti-inflammatory
7. analgesic

Hepar sulfuris

Indicated for:

1. Tendency to suppuration, especially on the skin and lymph
2. glands
3. tonsillar abscesses
4. chalazions
5. urinary disorders

Hypericum perforatum

Indicated for:

1. neural and cerebral injuries
2. neural pains upon or after injuries
3. haemostatic

Mercurius solubilis Hahnemanni

Indicated for:

1. anti-suppurative
2. active in cases of pyuria and inflammation in the urogenital tract
3. acute and chronic inflammation of the whole lymphatic apparatus
4. dysentery
5. hepatitis
6. cholangitis

Symphytum officinale

To accelerate callus formation in fractures; periostitis, causalgia, disorders arising from amputation stumps; contusions. Injuries to the tendons, ligaments and periosteum; acts on the joints in general, neuralgia of the knee.

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^[i]*Bürgi's Principle:*

Bürgi's principle was formulated by Emil Bürgi of Switzerland in 1910; if two pharmacological agents with similar actions are given in combination, the resultant effect is not merely additive but super additive (synergistic).