Ginkgo Formula (Yin Guo Ye Wan) is a modern formula in the jian nao/bu nao (healthy brain/tonify brain) category. There are many formulas in this category with similar names, each with its own unique approach to supporting brain function.

**General Signs/Symptoms**
The usual signs and symptoms will involve brain function or the central nervous system at some level: Parkinson’s disease, Alzheimer’s disease, vertigo, “brain fog,” memory loss, poor concentration, insomnia, anxiety, and mental illness, to name a few. Modern research has identified a number of other signs/symptoms/conditions that are effectively addressed with jian nao/bu nao (healthy brain/tonify brain) products and with ginkgo leaf (yin guo ye). (See Indications and Modern Applications below.)

**Classical Applications**
1. Nourishes heart and liver blood  
2. Astringes and protects lung qi  
3. Invigorates blood in chest  
4. Opens orifices and calms the spirit  
5. Sedates liver fire and liver wind

**Ingredients**

<table>
<thead>
<tr>
<th>PINYIN</th>
<th>LATIN</th>
<th>ENGLISH</th>
<th>Percent of Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yin Guo Ye (chief)</td>
<td>Ginkgo (folium)</td>
<td>Ginkgo leaf</td>
<td>23.8%</td>
</tr>
<tr>
<td>Suan Zao Ren (deputy)</td>
<td>Ziziphi spinosa (semen)</td>
<td>Sour Date seed, Jujube seed</td>
<td>15.3%</td>
</tr>
<tr>
<td>Dang Gui (assistant)</td>
<td>Angelicae Sinensis (radix)</td>
<td>Dong Quai, Tang Kuei root</td>
<td>10.2%</td>
</tr>
<tr>
<td>Shan Yao (assistant)</td>
<td>Dioscoreae (rhizoma)</td>
<td>Chinese Yam</td>
<td>8.5%</td>
</tr>
<tr>
<td>Rou Cong Rong (deputy)</td>
<td>Cistanches (herba)</td>
<td>Broomrape, Cistanches</td>
<td>6.7%</td>
</tr>
<tr>
<td>Gua Qi Zi (assistant)</td>
<td>Lycii (fructus)</td>
<td>Lycium fruit, Chinese Wolfberry</td>
<td>6.7%</td>
</tr>
<tr>
<td>Wu Wei Zi (deputy)</td>
<td>Schisandrae (fructus)</td>
<td>Schisandra fruit</td>
<td>6.7%</td>
</tr>
<tr>
<td>Yi Zhi Ren (deputy)</td>
<td>Alpiniae Oxyphyllae (fructus)</td>
<td>Black Cardamom, Alpinia fruit</td>
<td>5.1%</td>
</tr>
<tr>
<td>Hu Po (deputy)</td>
<td>Succinum (resina)</td>
<td>Amber</td>
<td>3.4%</td>
</tr>
<tr>
<td>Long Gu (assistant)</td>
<td>Fossilia Ossis Mastodi</td>
<td>Fossilized Mineral</td>
<td>3.4%</td>
</tr>
<tr>
<td>Ren Shen (assistant)</td>
<td>Ginseng (radix)</td>
<td>Asian Ginseng root</td>
<td>3.4%</td>
</tr>
<tr>
<td>Jiu Jie Chang Pu (deputy)</td>
<td>Anemones Altaicae (rhizome)</td>
<td>Altai Anemone rhizome</td>
<td>3.4%</td>
</tr>
<tr>
<td>Bai Zi Ren (deputy)</td>
<td>Platycladi (semen)</td>
<td>Oriental Arborvitae seed, Biota seed</td>
<td>3.4%</td>
</tr>
</tbody>
</table>

**General Indications / Modern Applications**

- Alzheimer’s disease  
- Insomnia  
- Nasal congestion, chronic w/ neither cold nor heat  
- Angina  
- Intermittent claudication  
- Neuropathy  
- Amnesia  
- Liver fibrosis  
- Obsessive Compulsive Disorder  
- Brain fog  
- Macular degeneration  
- Palpitations  
- Cerebral Infarction, post  
- Memory, poor  
- Parkinson’s disease  
- Concentration, poor  
- Mental confusion  
- Psychosis  
- Diabetes mellitus  
- Mental fatigue  
- Restlessness  
- Dizziness  
- Mental illness  
- Schizophrenia  
- Hyperlipidemia  
- Multiple Sclerosis  
- Tinnitus  
- Inflammation, chronic  
- Muscular degeneration  
- Vertigo, geriatric

**Synergy of Ingredients**
The base formula consists of deputy and assistant substances long believed to be able to nourish the shen (spirit) and “open” the orifices of consciousness in order to facilitate mental processing. Added to this base formula is ginkgo leaf (yin guo ye), which serves the role of chief.

The “traditional” qualities and functions of ginkgo leaf (yin guo ye) barely hint at its more common uses today, even in China.
Formula Actions
- Nourishes heart and liver blood
- Astringes and protects qi
- Invigorates blood flow
- Opens orifices and calms the spirit
- Sedates liver fire and liver wind

Tongue
Pale or light purple, may have red sides, may be quivering, thin or no coating.

Pulse
May be thin, rapid, or choppy.

Contraindications / Caution
This formula should not be taken concurrently with Warfarin, Coumadin or any antiplatelet or anticoagulant.

Dosage
Standard dosage is two tablets, taken three times daily.

"Traditionally," it enters only the lung channel, where it astringes the lung qi to calm wheezing and invigorates blood flow through the chest to reduce thoracic pain and oppression. But modern research informs its use today. Extensive studies have shown the chief of this formula to be a powerful scavenger of oxygen free radicals, a regulator of neurotransmitters and hormones, and a valuable substance in the treatment of both cardio-cerebral disease and neurodegenerative disease.

The deputies in Ginkgo Formula (Yin Guo Ye Wan) all serve to either calm shen, nourish/astringe jing, or open orifices. The main deputy, in terms of proportion and function, is jujube date seed (suan zao ren). Jujube date seed (suan zao ren) is the chief ingredient in many of the jian nao/bu nao (healthy brain/tonify brain) formulas which do not contain ginkgo leaf (yin guo ye). It is astringent and tonifying, nourishing the heart yin and liver blood; it has a strong sedating action and is often used to calm anxiety and induce sleep when there is insomnia. Deputies with similar tonifying actions, which also calm shen are biota seed (bai zi ren), and schisandra (wu wei zi). Lycium fruit (gou qì zi) and Chinese yam (shan yao) are assistant herbs with the ability to astringe and nourish yin and essence, but without directly calming shen.

Two substances, both deputies, cistanches (rou cong rong) and alpinia fruit (yi zhi ren) are yang tonics. In this formula, they serve to augment the kidney qi and jing and support the kidney function to transform jing into marrow. Altai anemone rhizome (jiu jie chang pu) is included in the formula for its ability to open the orifices of consciousness while it calms the shen. Amber (bu po) and fossilized mineral (long gu) are mineral substances included to sedate and pacify an unquiet spirit.

Ginseng (ren shen) is used in the formula, rather than its common substitute, codonopsis (dang shen), because only ginseng can nourish qi at the level of the yuán qi, while its ability to calm shen is superior among qi tonics. Lastly, angelica root (dang gui) is employed as an assistant because it supplements and invigorates not only heart and liver blood, but it is indicated for conditions where the kidney function and blood have a close connection, as in its extensive use in menstrual and postpartum disorders, in trauma formulas to help re-knit bone, and in the treatment of post-stroke conditions.

Formula Discussion
As a modern formulation, Ginkgo Formula (Yin Guo Ye Wan) does not have a classical history. In fact, the chief ingredient, ginkgo leaf (yin guo ye), was only used in China for medicinal purposes on a regular basis after China learned about it from the West. Over time, interest in ginkgo leaf (yin guo ye) lead to extensive Asian research into its medicinal qualities. The specific formulation under discussion here differs from other common formulations of jian nao/bu nao (healthy brain/tonify brain) products precisely by the inclusion of ginkgo leaf (yin guo ye). The remaining ingredients are all commonly used in jian nao/bu nao (healthy brain/tonify brain) products.

In classical China, the brain did not receive anywhere near the scope and scale of medical inquiry as it now does. Until the late Ming Dynasty consciousness was always believed to reside in the heart and in the blood, while the brain, as a “curious organ,” was merely “the sea of marrow” and the receiver of data from the senses. As the receiver of sense data, the brain was thought to function primarily as a kind of computer, having various and influenceable degrees of efficiency in its processing of the data it received. The “influences” come from the quality of postnatal qi and the kidney essence we provide our brains (derived from food, drink, sleep, and lifestyle), but also from the condition and character of our shen (spirit). It was reflection upon these ideas of how the brain’s function can be influenced and the close connection between brain function and shen that lead Li-shi Zhen in the 16th Century to introduce his “brain ruling” theory of consciousness, wherein he posited the brain to be the governor of consciousness. The medical implications of this notion were not explored in the years that followed, not even by Li-shi Zhen himself. It took another three centuries and much cross-enculturation with the West before Wang Qing Ren would be able to emphatically declare that “intelligence and memory reside not in the heart but in the brain.”

The present formulation is a reflection of both classical and modern understandings of how certain classifications of issues related to consciousness (focus, memory, mental illness, Alzheimer’s, sleep vs. wake, etc.) are treated medically and how brain health in particular is an essential consideration. Ginkgo Formula (Yin Guo Ye Wan) opens/unblocks the orifices of consciousness, nourishes the kidney yin and jing, calms shen, and invigorates the flow of blood as well as cerebral spinal fluid. These are its primary actions, and they are all tonifying in some sense. The secondary actions of the formula are sedative. They include draining liver fire and settling liver wind.
Modern Applications

The modern applications of other jian nao/bu nao (healthy brain/tonify brain) formulas are very similar and include insomnia, anxiety, restlessness, palpitations, dream disturbed sleep, and sinusitis or nasal congestion that are due to kidney qi or jing deficiency.

Ginkgo leaf (yin guo ye) is the chief herb in Ginkgo Formula (Yin Guo Ye Wan) and makes up nearly a quarter of the total volume. While bearing in mind the actions and “modern applications” of the jian nao/bu nao (healthy brain/tonify brain) base, this section will concentrate on the results of studies performed on the chief ingredient.

Ginkgo extract has been used extensively in Europe, and approved by the German botanical equivalent of the FDA, the E Commission, for symptomatic treatment of depression and impairment of memory and concentration secondary to organic brain syndrome. Ginkgo is one of the most frequently studied herbal medicinals, with more than 400 studies completed on it in the last 30 years. It has been studied for use in treatment of dementia, stroke, traumatic brain injury, macular degeneration, anoxia, psychiatric illness and other disorders. Studies show that benefits from the use of this herbal medicine include improved recognition memory, processing speed, attention, concentration, mood, tinnitus, sexual dysfunction, nephotoxicity, glaucoma and claudication. The mechanisms for how ginkgo leaf is able to be so versatile are well understood compared to many other herbal mechanisms. They can be summed up in ten generalized actions/functions:

1. Anti-hyperlipidemia — The first formal studies conducted on ginkgo were performed in Germany in the 1960s and showed its effectiveness for lowering serum cholesterol.
2. Scavenging oxygen free radicals
3. Antagonizing platelet activating factors (PAF)
4. Strengthening the central nervous system
5. Regulating neurotransmitter and hormones
6. Improving hemorrhheologic conditions
7. Hepatoprotective
8. Neuroprotective
9. Anti-inflammatory
10. Anti-anaphylaxis

Neurodegenerative and Geriatric Disease

Alzheimer’s Disease – Jian nao/bu nao (healthy brain/tonify brain) products were originally created to treat dementia. Ginkgo leaf (yin guo ye) extract has been successfully used in Europe to treat Alzheimer’s disease. Many of the actions of how ginkgo leaf (yin guo ye) is able to benefit Alzheimer’s patients have been well-studied. (1) It is known to inhibit the formation of beta-amyloid (Aβ) from β-amyloid precursor protein (APP), an essential stage in the pathogenesis of Alzheimer’s disease. (2) Ginkgo leaf (yin guo ye) also inhibits free radical accumulation induced by Aβ and reduces neuron apoptosis. Neuron apoptosis (the degeneration of neuron cells) is considered one of the main causes of neurodegenerative disease. (3) Ginkgo leaf (yin guo ye) has been shown to improve cerebral blood flow by stimulating norepinephrine secretion.

Parkinson’s Disease – A major issue with treating Parkinson’s patients is the reliance on L-Dopa, which causes some level of neurotoxicity. Ginkgo leaf (yin guo ye) was shown to reduce this toxicity, indicating the use of a combined L-Dopa and ginkgo treatment.

Poor Memory – Perhaps no other natural substance is as well-known to help memory as ginkgo leaf.

Peri-menopausal and Menopausal Brain Fog – Jian nao/bu nao products are considered suitable for treating peri-menopausal brain fog. Ginkgo leaf (yin guo ye) on its own has also been shown to be effective in treating brain fog/poor focus.

Cardio-Cerebral Disease

As a powerful scavenger of oxygen free radicals, ginkgo leaf (yin guo ye) has numerous applications in cardiovascular disease. Additionally, ginkgo leaf (yin guo ye) can help prevent damage of cardiovascular cell membranes from cellular aging, relieve ischemia/reperfusion injury in both brain and myocardium, protect vascular endothelium, and improve microcirculation. Ginkgo leaf (yin guo ye) raises the survival capacity of myocardial cells and protects the myocardium under ischemic conditions.

Cerebral infarction – One of the major applications of ginkgo leaf (yin guo ye) extract is the treatment of post cerebral infarction to promote early recovery. By virtue of its ability to dilate blood vessels, improve microcirculation, hemorrhheological conditions, and suppressing thrombosis, ginkgo leaf (yin guo ye) was seen as a possible resource for treating patients who had recently suffered from cerebral infarction. Later, it was expanded to be used in prevention of cerebral infarction for patients who were considered at high risk. Both applications have shown to be very successful.

Hepatology

In 2004, Yao Ping headed a study that looked at the protective effects that ginkgo leaf (yin guo ye) had against chronic alcoholic oxidative injury, which showed that this herb could “markedly inhibit” injury to the liver from high levels of oxidation. Several studies have been conducted to indicate that ginkgo leaf (yin guo ye) can inhibit fibrosis formation and even reverse liver fibrosis with no ill effects.

Diabetes Mellitus

Ginkgo leaf (yin guo ye) extract antagonizes PAF (platelet activating factors); and in conjunction with at least two other actions, can thus decrease insulin resistance in patients with diabetes mellitus. It also benefits the diabetes mellitus patient by improving blood circulation and preventing large vascular changes. It was also suggested in a study by WL Meng, et al., that diabetic neuropathy can be effectively treated with ginkgo leaf (yin guo ye) extract.

Chemotherapy Adjuvant / Anti-Cancer

A major cause of side-effects caused by chemotherapy stems from the resulting elevated oxygen free radicals, hydroxyl free radicals, and lipid peroxidation (oxidative degradation of lipids) in the system. Studies have shown that ginkgo leaf (yin guo ye) extract effectively scavenges the free radicals and reduces peroxidation to reduce damage from chemotherapy.

Ginkgo leaf (yin guo ye) extract beneficially influences proper gene expression (cell proliferation, cell differentiation, and apoptosis) in breast and bladder cancer models.

Mental Illness

In a 2005 study, positive effects were seen using ginkgo leaf extract to treat schizophrenia patients. The positive results were believed to be linked to ginkgo’s ability not only to scavenge oxygen free radicals, but also to increase the levels of the body’s own antioxidant enzymes, like superoxide dismutase (SOD), catalase, and glutathione peroxidase.

In an article entitled, Atypical Antipsychotics from Scratch to the Present, Ashish Chauhan, et al., cite the use of Bu Nao Wan (Tonify the Brain Pill) as a treatment for both psychosis and compulsive disorders.

Tinnitus – A 12 week study that included 99 patients with chronic tinnitus was conducted to determine the efficacy of ginkgo leaf (yin guo ye) extract for treating tinnitus. Half the group was given ginkgo leaf (yin guo ye) extract, dosed at 120 mg. daily. The other half of the group received a placebo medication. The results indicated that the loudness of the tinnitus sounds were, on the average, reduced significantly more in the group treated with ginkgo leaf (yin guo ye) extract.
FORMULA COMPARISONS

No other formulas compare closely with Ginkgo Formula (Yin Guo Ye Wan). There are, of course, a number of yin and jing tonics, such as Zizyphus Formula, Jing Qi Formula, and Nourish Essence Formula, to name a few, but these lay little claim on nourishing the brain or treating brain disorders. Others, such as Ming Mu Formula, can nourish yin and help drain liver fire from the head, but the focus is more on the eyes than the brain. Yet, there are a number of formulas that address some of the same conditions as Ginkgo Formula. These are too numerous to list, as the number of patterns that can produce symptoms and the long list of indications would be multiplied together. With this in mind, careful pattern differentiation is indispensable.

USEFUL COMBINATIONS

<table>
<thead>
<tr>
<th>With signs of heart and liver blood deficiency leading to symptoms of poor memory, poor concentration, poor sleep, palpitations, and restlessness</th>
<th>Use with Zizyphus Formula (Suan Zao Ren Tang).</th>
</tr>
</thead>
<tbody>
<tr>
<td>With menopausal symptoms of hot flashes, poor concentration, brain fog, poor memory, poor sleep, irritability, restlessness, anxiety, and palpitations due to kidney yin deficiency and heart/liver blood deficiency</td>
<td>Use with Heavenly Emperor’s Formula (Tian Wang Bu Xin Dan).</td>
</tr>
</tbody>
</table>

ENDNOTES

2 Ibid.
8 This list, as well as some of the studies cited is indebted to two publications: The first is a summary of studies by Wang, GX, Cao, FL, and Chen, J. The second is a similar survey published by Mahadevan, S and Park, Y.
9 Dharmamanda, S, Alzheimer’s Disease: Treatment with Chinese Herbs, Institute for Traditional Medicine, Portland, Oregon, July 1996.
10 Ibid.
16 Dharmamanda, S, Perimenopausal Brain Fog Acupuncture and Herbs to Stimulate Brain Activity, Institute for Traditional Medicine, Portland, May 2005.