Zhong Gan Ling Formula (Zhong Gan Ling Pian), also known as “Severe Common-Cold Effective Remedy,” is a modern Chinese patent medicine, developed in the 20th century.

**General Signs/Symptoms**
Zhong Gan Ling Formula (Zhong Gan Ling Pian) addresses severe cold and influenza due to external pathogenic wind-heat invasion. Common symptoms include fever, headache, sore throat, body ache, cough, aching neck and shoulders, swollen lymph nodes, etc. It can be used prophylactically to prevent wind-heat and epidemic infections when there is identified exposure.

**Actions**
1. Dispels pathogenic wind-heat and release the muscle layer
2. Resolves toxin and benefits throat
3. Cools blood and disperses stasis

**Ingredients**

<table>
<thead>
<tr>
<th>Pinyin</th>
<th>Latin</th>
<th>English</th>
<th>Percent of Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mao Dong Qing</td>
<td>Ilicis Pubescentis Radix</td>
<td>Pubescent Holly Root</td>
<td>19.6%</td>
</tr>
<tr>
<td>Ge Gen</td>
<td>Puerariae Radix</td>
<td>Kudzu Root</td>
<td>19.6%</td>
</tr>
<tr>
<td>Da Qing Ye</td>
<td>Isatidis Folium</td>
<td>Isatis Leaf, Indigo Woad Leaf</td>
<td>14.6%</td>
</tr>
<tr>
<td>Ma Bian Cao</td>
<td>Verbenae Herba</td>
<td>Verbena</td>
<td>13.0%</td>
</tr>
<tr>
<td>Bai Hua She She Cao</td>
<td>Hedyotis Diffusae Herba</td>
<td>Hedyotis, Oldenlandia</td>
<td>13.0%</td>
</tr>
<tr>
<td>Ban Lan Gen</td>
<td>Isatidis seu Baphicacanthis Radix</td>
<td>Isatis Root</td>
<td>10.1%</td>
</tr>
<tr>
<td>Qing Hao</td>
<td>Artemisiae Annuae Herba</td>
<td>Sweet Wormwood</td>
<td>5.0%</td>
</tr>
<tr>
<td>Shi Gao</td>
<td>Gypsum Fibrosum</td>
<td>Gypsum</td>
<td>2.9%</td>
</tr>
<tr>
<td>Qiang Huo</td>
<td>Notopterygium Rhizoma seu Radix</td>
<td>Notopterygium</td>
<td>2.2%</td>
</tr>
</tbody>
</table>

**General Indications / Modern Applications**
- Body aches
- Bronchitis
- Common cold, severe
- Cough
- Diarrhea, damp-heat
- Epidemic infections
- Fever
- Headache
- Influenza
- Lymph nodes, enlarged
- Meningitis (prophylactic)
- Neck and shoulders, sore
- Skin lesions, from heat in blood
- Sores, toxic
- Strep throat (streptococcus)
- Thirst, intense
- Throat, sore
- Urination, blocked

**Formula Discussion**
Zhong Gan Ling Formula (Zhong Gan Ling Pian) is a modern-era creation. As the story goes, officials looking to find the best defense against influenza and the common cold surveyed practitioners throughout China to discover the herbs each found most effective for treating these viruses. They went into many different regions and included many rural practitioners who only employed family traditions, but may have had no formal medical education. After collecting multiple samples, they tested the herbs and various combinations for their antiviral effects and Zhong Gan Ling Formula (Zhong Gan Ling Pian) was born.

Zhong Gan Ling Formula (Zhong Gan Ling Pian) is generally considered to be best utilized for treating severe common cold or influenza. “Severe,” in this context is meant to suggest a wind-heat invasion with high fever and/or sore throat, a toxic heat condition, or a wind-cold invasion which has transformed into heat with fever over 101.5°F. In modern terms, the herbs that make up Zhong Gan Ling Formula (Zhong Gan Ling Pian) are all powerful antivirals, with different emphases in their actions.
Zhong Gan Ling Formula (Zhong Gan Ling Pian) excels at treating invasion from external pathogens when there is fever, sore throat, and headache. When these three signs appear together in an external invasion, Zhong Gan Ling Formula (Zhong Gan Ling Pian) should be your number one choice.

Synergy of Ingredients
Zhong Gan Ling Formula (Zhong Gan Ling Pian) is not designed according to the traditional Chief-Deputy-Assistant strategies. Rather, all of the ingredients have an anti-viral effect and all are cold in order to drain heat, with the exception of notopterygium (qiang huo), which is warm, and helps pueraria (ge gen) to release the muscle layer. Many of the ingredients resolve toxin because “severe cold” or “severe flu” usually implies a degree of toxicity. In Chinese medicine, toxicity strongly suggests that the pathogen has reached the blood level and this formula takes the blood level into consideration.

Pubescent ilex root (mao dong qing) is new to the official Materia Medica of China. It first appears in 20th-century publications. Originally classified as an herb that regulates blood, it was shown to have powerful antiviral effects and is now commonly used as a prophylactic against meningitis in addition to its actions against wind-heat. And though it is one of only two substances in this formula classified to “Regulate the Blood,” others possess a similar ability because toxins so commonly involve the blood. Verbena (ma bian cao) is the other herb from the “Regulate the Blood” category. It reaches the shaoyang level and by that virtue is able to treat malarial disorders. Verbena (ma bian cao) also resolves toxicity and painful swellings.

Two parts of the isatis plant are used in Zhong Gan Ling Formula (Zhong Gan Ling Pian). Isatis leaf (da qing ye) mobilizes both qi and blood as part of its ability to resolve toxin. It is one of the most famous herbs for resolving toxin in the throat and ulcers in the mouth. It enters the blood level, where toxin resides, and is indicated for toxin anywhere in the body, even when caused by epidemic evil qi. The combination of gypsum (shi gao) and isatis leaf (da qing ye) is used to combat “blazing fire” with high fever in such conditions as mumps, or, in this case, severe influenza. Isatis root (ban lan gen) works much the same way as the leaf. The major difference is that the leaf is stronger to cool and mobilize the blood and is therefore more appropriate for treating generalized rash. The root (ban lan gen) has more of a descending quality and penetrates deeper into the flesh. Both root and leaf are strong for treating sore throat, but the difference is that the leaf is stronger to affect the surface of the throat where lesions may erupt, while the root reaches into the flesh of the throat to break up the congealed blood that causes swelling in the walls of the throat, commonly called “throat bi.”

Pueraria (ge gen) and notopterygium (qiang huo) both are in the “Release the Exterior” category. They both release the exterior in general and the muscle layer in particular in order to expel pathogens and relieve pain in the neck and shoulders. These are valuable actions for inclusion in such a formula, since there needs to be an opening to the exterior for the release of the pathogen. Most of the other herbs in Zhong Gan Ling Formula (Zhong Gan Ling Pian) are acting upon the qi and blood levels. Both pueraria (ge gen) and notopterygium (qiang huo) can help draw out toxin. In other words, they pull toxin toward the surface. So while much of the formula is working to destroy the toxin in the qi and blood, these two herbs are preventing deeper penetration of the pathogen and actually beginning to transform the toxin by lifting it out of the blood level for expulsion. Pueraria (ge gen)
enters the stomach and has the ability to generate fluids. These are the thin/jin fluids. The jin fluids are produced by the stomach; they conduct wei qi and are ascended to the head to nourish the sensory orifices. By generating jin fluids and raising them up into the head, pueraria (ge gen) not only helps to replenish the fluids damaged by heat and toxin, but provides a general up and out pathway for expulsion.

Three more herbs in Zhong Gan Ling Formula (Zhong Gan Ling Pian) are from the “Clear Heat” category, but they each have a different sub-category. Gypsum (shi gao) “clears heat and drains fire;” oldenlandia (bai hua she she cao)”clears heat and resolves toxicity;” and artemesia (qing hao)”clears heat from deficiency.” Gypsum (shi gao) is well-known for its ability to drive out heat from the body and reduce fever. Like pueraria (ge gen) and notopterygium (qiang huo), gypsum can also release the muscle layer. Oldenlandia (bai hua she she cao) is strong for resolving fire toxin in either the upper or lower body and can guide out heat through the urine. Wormwood (qing hao), like verbena (ma bian cao) reaches the shaoyang level and can treat malarial disorders. It enters the blood level in order to draw out constrained fire. It therefore works with isatis root (ban lan gen) to expel deep-lying toxin from the blood, in this formula having a pronounced effect upon the toxin in the blood of the throat.

MODERN APPLICATIONS
There are virtually no formal studies on Zhong Gan Ling Formula (Zhong Gan Ling Pian) published in English. As a product of the modern era of Chinese herbal medicine, the formula was put together in recent decades based largely on research conducted on the individual ingredients, but informed by their traditional actions. Research on pubescent ilex root (mao dong qing), for example, listed in the Materia Medica as an herb that regulates blood, was discovered to possess strong antitussive, expectorant, and antibacterial properties. All of the other ingredients are well-known for their various roles in fighting off respiratory (wind-heat) invasions, clearing toxin, draining heat, and reducing fever.

A clinical observation was performed using Zhong Gan Ling Formula (Zhong Gan Ling Pian) to treat the common cold in 197 patients. Symptoms included fever, aversion to cold, aching limbs, cough, difficulty swallowing, stuffy nose, sneezing, and pale red tongue with a thin yellow or thin white coat. Of those 197 patients, 126 were female and 71 were male. 52 were aged 7-17, 91 were aged 18-40, and 54 were aged 41-65. 101 had duration of disease less than three days, 70 had duration from three to seven days, and 26 had duration more than seven days. Course of treatment was three to seven days. The results showed 156 cases, 79.19%, were deemed cured, 17 cases, 8.63%, showed marked improvement, 15 cases, 7.61%, showed some improvement, and nine cases, 4.57%, had no effect; a total effective rate of 95.43%. For comparison, a smaller control group of 45 cases were given Kang Bing Du Chong Ji, another patent medicine with the following ingredients: isatis root (ban lan gen), forsythia (lian qiao), cardamom (dou kou), houttuynia (yu xing cao), paris rhizome (chong lou), artemesia (qing hao), cyrtomium (guan zhong), angelica dahurica (bai zhi), and anemarrhena (zhi mu). After the same course of treatment the results showed 11 cases, 24.44%, were deemed cured, 13 cases, 28.89%, showed marked improvement, 11 cases, 24.44%, showed some improvement, and 10 cases, 22.22%, were deemed invalid; a total effective rate of 77.78%.

Research was conducted in Hong Kong in the early 1990s by Dr. Yan Dexin comparing the effects of various herbal cold remedies. His research found that Zhong Gan Ling Formula (Zhong Gan Ling Pian) was “extremely effective” for treating the flu, especially when there were marked heat signs, such as high fever.

FORMULA COMPARISONS
Zhong Gan Ling Formula and Yin Chiao Formula
Yin Chiao Formula (Yin Qiao San) is used to address early stage wind-heat invasion. This formula is best taken upon initial onset of symptoms. Zhong Gan Ling Formula (Zhong Gan Ling Pian) is more suitable upon full-blown, acute phase of infection where high fever is predominant.

Gan Mao Ling Formula and Zhong Gan Ling Formula
Both formulas address the common cold and influenza due to external pathogenic wind-heat invasion using a very similar treatment approach. Both formulas are made up of herbs that have strong antiviral properties; in fact the chief herb in each of these formulas is the same, pubescent ilex root (mao dong qing). Zhong Gan Ling Formula’s key differentiation is that it is going to be more appropriate for severe heat signs like high fever or ecchymosis due to blood heat. Gan Mao Ling Formula is also considered to be most effective upon initial signs of “feeling off,” much like Yin Chiao Formula.

Zhong Gan Ling Formula (Zhong Gan Ling Pian) is the preferred formula if Yin Chiao Formula (Yin Qiao San) and Gan Mao Ling Formula (Gan Mao Ling Pian) prove to be ineffective.
REFERENCES

ENDNOTES
iv Academic Experience in Internal Medicine: Yan Dexin Heritage (Chinese) Xing Bin, Han Tian, and Zhu Bian, 1991.