Official Treatment Protocols Include Chinese Herbal Medicine Formulas for Novel Coronavirus

Many people around the world are following the development of novel coronavirus (2019-nCoV) infections in China and the efforts to treat those affected and stop its global spread. However, many are not aware that Traditional Chinese herbal medicine is a significant part of the official medical guidelines for treatment issued by the national government. [Those who can read Chinese can follow the link here:

http://www.nhc.gov.cn/yzygj/s7653p/202001/4294563ed35b43209b31739bd0785e67.shtml

The two sets of formulas below were translated by Shelley Ochs and Thomas Avery-Garran, both professional practitioners of Chinese medicine and long-term residents of Beijing. For more updates and discussions, you can follow Thomas on his website and Facebook page Passiflora Press and you can follow Shelley on WeChat at TCMinBeijing.

The first set is a modification of the national guidelines produced by the Guangdong Province Bureau of Chinese Medicine (link below) and the other is a set from a doctor treating patients in Hubei Province. The translations are intended to be readable and useful to our colleagues around the world, even if [as we hope] you are never called upon to use them to treat patients with Wuhan pneumonia.

The official protocols, and the translations below, are simply guidelines developed by professionals on the frontlines treating those suffering from Wuhan coronavirus. Like all medical protocols, they are intended as a useful reference only.

Guangdong Province: Chinese Medicine Protocol for Pneumonia Due to

Novel Coronavirus

(Provisional First Edition Jan. 24, 2020) [Translated by Shelley Ochs]

Based on the particular epidemiological features of pneumonia caused by novel coronovirus in Guangdong Province, along with the clinical presentation and clinical features of its progression, it fits the characteristics of "pestilent disease" or "warm disease" in Chinese medicine. When there is externally-contracted pestilent qi, the disease moves from the exterior to the interior, and generally follows the patterns of moving from upper to middle to lower burners and through the wei-qi-ying-xue levels. The climate in this area is damp and humid, and pestilent qi easily mixes with this dampness, first attacking the lung wei-defense level, particularly in patients with a weak spleen and stomach. If the upright, healthy (*zheng*) Qi cannot defeat the deviated, unhealthy (*xie*) [qi], then the deviated toxin (evil/pathogenic

toxin) will move to the interior and transform into heat, harming the fluids (*jin*) and using-up the humors (*ye*), sometimes to the point of scorching the *ying qi* and agitating the blood. When the latter happens, this can be directly transmitted to the pericardium and create a critical situation. The main disease factor is (cause) is damp-heat with pestilent toxin, and the pathological features are "dampness, heat, stasis, toxin, and vacuity."

Early Stages

Damp-evil is stuck in the lung, making qi movement through this pivot difficult (interferes with the Qi dynamic of the lung)

Symptoms: low-grade fever or no fever, slight aversion to cold, sensation of heaviness and stuffiness in the head and body, muscle pain and soreness, fatigue, cough with scant phlegm, dry mouth with little intake of fluids, in some cases oppression in the chest and blockage/congestion in the middle of the torso (epigastrium), no sweating or difficulty sweating (feels like sweat cannot come out), in some cases nausea and poor appetite, diarrhea and loose stool, pale red tongue with a white, greasy coating; floating, slightly rapid pulse

Treatment: transform dampness and release toxins; diffuse the lung to vent the toxin;

Formula: Modified Huo Po Xia Ling Tang and Xiao Chai Hu Tang

huoxiang 10g	houpo 10g	fa banxia 10g Pinellia ternata, processed w\ licorice & lime (法半夏)	fuling 15g
Agastache rugosa	Magnolia officinalis		Poria cocos
(藿香)	(厚朴)		(茯苓)
chaihu 15g	huangqin 10g	dangshen 10g	xingren 12g
Bupleurum sp.	Scutellaria baicalensis	Codonopsis pilosula	Armeniaca amarum
(柴胡)	(黄芩)	(黨參)	(杏仁)
yiyiren 20g	zhuling 10g	zexie 15g	baidoukou 10g
Coix lacryma-jobi	Polyporus umbellatus	Alisma plantago-aquatica	Amomum kravanh
(生薏苡仁)	(豬苓)	(澤瀉)	(白豆蔻)
dandouchi 10g Gylcine max, processed (淡豆豉)	tongcao 10g Tetrapanax papyriferus (通草)	shengjiang 5g Zingiberis officinalis, fresh (生姜)	dazao 12g Ziziphus jujuba (大棗)

Modifications:

For headache with distension in the head, add *manjingzi*, *baizhi*, *bohe* For pronounced cough: add *mi* (honey mix-fried) *pipaye*, *zisuzi* For copious phlegm add *gualou* and *zhebeimu* For sore throat with swelling add *xuanshen*, *jiangcan*, and *shegan*

Heat-evil obstructing the lung; lung loses ability to diffuse and descend

Symptoms: fever or high fever; cough; phlegm that is yellow or thick; fatigue; headache; pain and soreness in whole body; dryness and bitter taste in the mouth; heart vexation (irritability); constipation and reddish urine; red tongue with yellow or yellow and greasy coat that is not moist (has no luster); slippery and rapid pulse

Treatment: clear heat and resolve toxins, diffuse the lung to vent pathogen

Formula: Modified Ma Xing Shi Gan Tang and Da Yuan Yin

zhi mahuang 8g	xingren 10g	sheng shigao 30g	sheng gancao 10g
Ephedra sp.,	Armeniaca amarum	Gypsum, unprocessed	Glycyrrhiza sp., raw
honey mix-fried	(杏仁)	(生石膏)	(生甘草)
(炙麻黃)			
binglang 10g	houpo 10g	caoguo 10g	zhimu 10g
Areca catechu	Magnolia officinalis	Amomum tsaoko	Anemarrhena asphodeloides
(檳榔)	(厚朴)	(草果)	(知母)
baishao 10g	huangqin 15g	sheng gancao 5g	
Paeonia lactiflora	Scutellaria baicalensis	Glycyrrhiza sp. raw	
(白芍)	(黄芩)	(生甘草)	

Modifications:

For sticky, hard to expel stools, one can add Sheng Jiang San

For severe phlegm and heat, or copious, yellow phlegm, add *sangbaipi*, *danpi*, and *shanzhizi* For shortness of breath and fatigue along with pronounced thirst, one can use *xiyangshen* simmered and administered separately

Middle Stage

Damp-heat closes-down the lung; Fu-organ Qi [large intestine] is blocked

Symptoms: fever; cough; copious, thick, yellow phlegm; chest oppression; wheezing; thirst; foul breath; constipation and distention in the abdomen; dar, red tongue with thick, yellow, turbid coating; slippery, rapid pulse or deep and tight pulse

Treatment: clear heat and diffuse lung; open the fu [large intestine] and drain heat

Formula: Modified Xuan Bai Chengqi Tang and Huanglian Jie Du Tang

sheng mahuang 8g	xingren 12g	sheng shigao 30g	sheng dahuang 10g
Ephedra sp., honey	Armeniaca amarum	Gypsum, unprocessed (生	Rhei sp., raw
mix-fried	(杏仁)	石膏)	(生大黄)
(炙麻黄)			

gualouren 30g	taoren 10g	chishao 15g	tinglizi 20g
Trichosanthes kirilowii	Prunus persica	Paeonia ovata	Eruca sativa
(瓜蔞仁)	(桃仁)	(草果)	(葶苈子)
huanglian 3g	huangqin 10g	sangbaipi 10g	chonglou 10g
Coptis sp.	Scutellaria baicalensis	Morus alba	Paris sp.
(黃連)	(黄芩)	(桑白皮)	(重樓)
danpi 15g	yujin 15g	shichangpu 15g	shengdihuang 15g
Paeonia suffruticosa	Curcuma phaeocaulis	Acorus tatarinowii	Rehmannia glutinosa
(丹皮)	(郁金)	(石菖蒲)	(生地黃)
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xuanshen 15g Scrophularia ningpoensis (玄參)

Modifications:

For more pronounced or severe constipation add *shengmangxiao*, *huzhang*For expectorating yellow, dense, thick phlegm add *gualoupi* and *yuxingcao*For heat-evils harming the fluids add *nanshashen*, *shihu*, *zhimu*, or *xiyangshen* (*Panax quiquifolius* 西洋參) simmered and administered separately

Damp-heat harboring toxin; blocked and congested lung qi

Symptoms: fever or sensation of heat in the body that does not dissipate; sweating that is not smooth [is not regular and feels blocked]; wheezing with rough breathing; dry cough or a choking cough, perhaps with pain in the throat; oppression in the chest and blockage/congestion in the middle of the torso (epigastrium); dry mouth with reduced fluid intake; bitter taste or feeling of stickiness in the mouth, sticky and stuck stool; dark-red tongue with a yellow-greasy coating; rapid and slippery pulse

Treatment: Clear heat and transform dampness, diffuse the lung and release toxins **Formula:** Modified *Ma Xing Shi Gan Tang* and *Gan Lou Xiao Du Dan* with *Sheng Jiang San*

sheng mahuang 8g Ephedra sp., honey mix-fried (炙麻黃)	xingren 12g Armeniaca amarum (杏仁)	sheng shigao 30g Gypsum, unprocessed (生石膏)	sheng gancao 10g Glycyrrhiza sp. raw (生甘草)
huashi 12g	yinchenhao 20g	huangqin 15g	baikouren 10g
Talcum	Artemisia capillaris	Scutellaria baicalensis	Alpinia katsumadai
(滑石)	(茵陳蒿)	(黄芩)	(白蔻仁)
huoxiang 15g	fa banxia 15g Pinellia ternata, processed w\ licorice & lime	cangzhu 15g	tinglizi 20g
Agastache rugosa		Atractylodes lancea	Eruca sativa
(藿香)		(蒼朮)	(葶苈子)

(法半夏)

lianqiao 15g	jiangcan 5g	chantui 5g	jianghuang 10g
Forsythia suspensa (連	Silkworm	Cicada	Curcuma longa
翹)	(僵蠶)	(蟬翼)	(薑黃)
sheng dahuang 5g	chonglou 10g	danpi 15g	chishao 15g
Rhei sp., raw	Paris sp.	Paeonia suffruticosa	Paeonia ovata
(生大黄)	(重樓)	(丹皮)	(草果)
yujin 15g	shichangpu 15g	shengdihuang 15g	xuanshen 15g
Curcuma phaeocaulis	Acorus tatarinowii	Rehmannia glutinosa	Scrophularia ningpoensis
(郁金)	(石菖蒲)	(生地黄)	(玄參)

Modifications:

If heat is the most pronounced [evil], one can add *huanglian* and *yuxingcao* If dampness is the most severe, ad *fuling* and *peilan* If dampness and heat are equally severe, add *huanglian*, *buzhaye* (布渣叶), and *yiyiren* For liver and gallbladder damp-heat one can choose a modified version of *Long Dan Xie Gan Tang*

Severe Stage

Symptoms: There is internal blockage and external separation [detachment] with high fever and agitation and vexation; cough with rough breathing that causes the nostrils to flare; sound of phlegm rattling in the throat; felling of suffocation and desperation; voice breaks when speaking; skin rashes with papules and spots appear; patient may lose consciousness or be delirious; sweating with cold limbs; dark-purple lips; dark-red tongue with a yellow-greasy coat; deep, fine pulse that seems about to give out

Treatment: benefit qi and return yang to secure what is separating

Formula: Modified Shen Fu Tang

hongshen 10gpao fuzi 10gshanzhuyu 30gmaidong 20gPanax ginseng,Aconitum carmichaeli,Glycyrrhiza sp., rawOphiopogon japonicussteamedblast-roasted(生甘草)(麥冬)(紅參)(炮附子)

sanqi 10g Panax notoginseng (三七)

Modifications:

high fever with fright and delirium with reluctance to speak add *An Gong Niu Huang Wan* or *Zi Xue San*

For phlegm obscuring the heart orifice, *Su He Xiang Wan* can be given as a draught [briefly infused with water]

Recovery Stage

Dual vacuity of qi and yin; latent pathogen has not been fully resolved

Symptoms: fever is already gone or only a low-grade fever remains; fatigue; flustered; dry mouth; spontaneous sweating; abdominal distention; irregular bowel movements; pale-red tongue with a white coat or scant coat; vacuous [empty/scallion] and rapid pulse

Treatment: benefit qi and nourish yin to dispel the pathogen

Formula: Modified Er Chen Tang and Wang Shi Qing Shu Yi Qi Tang

xiyangshen 20g	shihu 15g	maidong 20g	zhimu 10g
Panax quiquifolius	Dendrobium sp.	Ophiopogon japonicus	Anemarrhena asphodeloides
(西洋參)	(石斛)	(麥冬)	(知母)
danzhuye 15g	huanglian 3g	gancao 6g	fuling 15g
Lophatherum gracile	Coptis sp.	Glycyrrhiza sp.	Poria cocos
(淡竹葉)	(黄連)	(甘草)	(茯苓)
fa banxia 10g	juhong 10g	chenpi 12g	chao maiya 30g
Pinellia ternata,	Citrus reticulata	Citrus reticulata	Hordeurn vulgare
processed w\ licorice & lime	(橘紅)	(陳皮)	(炒麥芽)
(法半夏)			

Modifications:

For pronounced cough: beixingren and qianhu

For pronounced dampness-turbidity: sharen, cangzhu, houpo

Fever with yin vacuity: qinghao, digupi, shidagonglaoye (十大功劳叶) For dry mouth with pronounced thirst, add xuanshen and tiandong For phlegm with blood in it, add danpi, shanzhizi, and oujietan

Dual vacuity of lung and spleen

Symptoms: pronounced sleepiness and fatigue; flustered with heart palpitations; dry mouth; spontaneous sweating; poor appetite; abdominal distention; loose stools; pale and enlarged tongue with a white coat; deep, slow pulse with no force;

Treatment: build the spleen and benefit qi to dispel phlegm

Formula: Modified Shen Ling Bai Zhu San

shengshaishen 10g Panax ginseng, raw (simmered separately) (人參)	chao baizhu 15g Atractylodes macrocephala (炒白朮)	fuling 15g Poria cocos (茯苓)	baibiandou 30g Dolichos lablab (白扁豆)
sharen 6g Amomum villosum (砂仁)	lianzi 30g Nelumbo nucifera (蓮子)	zhi gancao 6g Glycyrrhiza sp., honey mix-fried (炙甘草)	jiegeng 10g Platycodon grandiflora (桔梗)
shanyao 15g Dioscorea opposita (山藥)	yiyiren 20g Coix lacryma-jobi (薏苡仁)	chao maiya 30g Hordeurn vulgare (炒麥芽)	shenqu 30g Massa fermentata (神曲)

Modifications:

For pronounced lack of appetite add chaogumaiya, jiaoshanzha

For damp-turbidity that binds and fetters, one can choose cangzhu, shichangpu, baidoukou

For pronounced sweating, add mahuanggen, baishao

For dry mouth with severe thirst, add xuanshen and tiandon

For those who also have blood separation (xue tuo), add shengshaishen and ejiao

For those who are flustered and have heart palpitations to a severe degree, add *danshen* and *yuanzhi*

For this condition, prevention is more important than treatment. When coming into contact with patients, wear a mask. Make sure your home has good air circulation, do not smoke or drink, maintain a pleasant mood and a good diet, avoiding spicy or pungent foods and anything that agitates fire and dries-up the fluids in the body. Secure and guard your upright, healthy qi.

https://www.thepaper.cn/newsDetail_forward_5645720

Formulas for Respiratory Virus Jointly Designated by the Respiratory and Intensive Care Departments of Hubei Province Integrated Chinese\Western Medicine Hospital

[Translated by Thomas Avery-Garran]

The new coronavirus pneumonia roughly approximates Chinese medicine's "warm disease" or "epidemic disease" category. In clinical practice, the patient may present with or without

fever, fatigue, soreness of the muscles, feeling of heaviness in the body, poor appetite, greasy tongue coating showing the pathogen is in the exterior, most patients have cough, chest oppression, panting and\or urgent breathing. The fundamental pathogenic factors are dampness and heat. Clinically we need to consider the upper and middle burner for our primary treatment strategy, paying attention to latent heat, and damage to qi and yin. Specific patterns and treatments are as follows:

Pathogenic Toxin Entering the Lung\Upper Burner

External pathogens attacking the exterior, heat formation and constraint pattern

Symptoms: fever with a temperature of 38°C or above, fatigue, headache without sweating, body aches, heart vexation, tongue coating thin and yellow, frequent but scant urination.

Pattern: External pathogen attacking the exterior, pathogen constrained with heat formation.

Formula: Modified Chai Ge Jie Ji Tang

chaihu 15g Bupleurum sp. (柴胡)	gegen 20g Pueraria montana var. lobata (葛根)	huangqin 12g Scutellaria baicalensis (黄芩)	sheng gancao 10g Glycyrrhiza sp. raw (生甘草)
qianghuo 10g	baizhi 12g	chanyi 10g	jiangcan 12g
Notopterygium incisum	Angelica dehurica	Cicada	Silkworm
(羌活)	(白芷)	(蟬翼)	(僵蠶)
sheng shigao 30g	baishao 20g	lianqiao 15g	banlangen 20g
Gypsum, unprocessed	Paeonia lactiflora	Forsythia suspensa (連	Isatis tinctoria
(生石膏)	(白芍)	翹)	(板藍根)
xuanshen 20g Scrophularia ningpoensis			

Pathogenic heat obstructing the lung pattern

Symptoms: fever with body temperature above 38°C, sweating or lack of sweating, cough, chest oppression with panting, poor appetite, fatigue, thirst, tongue coating thin white or thin yellow, pulse slippery or rapid.

Pattern: pathogenic heat obstructing the lung **Formula:** Modified *Ma Xing Shi Gan Tang*

(玄參)

Ephedra sp.	Armeniaca amarum	Gypsum, unprocessed	<i>Glycyrrhiza</i> sp., raw
(生麻黄)	(苦杏仁)	(生石膏)	(生甘草)
huoxiang 15g	peilan 15g	cangzhu 15g	sharen 10g
Agastache rugosa	Eupatorium fortunei	Atractylodes lancea	Amomum villosum
(藿香)	(佩蘭)	(蒼朮)	(砂仁)
banlangen 20g	shenqu 30g	sangbaipi 15g	pipaye 15g
Isatis tinctoria	Massa fermentata	Morus alba	Eriobotrya japonica
(板藍根)	(神曲)	(桑白皮)	(枇杷叶)

Pathogen in the Lung and Middle Burner

Equally severe damp-heat pattern

Symptoms: fever with temperature above 37.5°C, tiredness (exhausted?), fatigue, poor appetite, thirst, watery stool, tongue [coating] white or thick and greasy, pulse floating or slippery and rapid.

Pattern: equally severe damp-heat
Formula: Modified *Gan Lu Xiao Du Dan*

baikouren 12g Alpinia katsumadai	huoxiang 15g Agastache rugosa	yinchenhao 20g Artemisia capillaris	<i>huashi</i> 12g Talcum
(白蔻仁)	(藿香)	(茵陳蒿)	(滑石)
tongcao 10g	shichangpu 15g	huangqin 12g	sheggan 15g
Tetrapanax papyriferus	Acorus tatarinowii	Scutellaria baicalensis	Iris domestica
(通草)	(石菖蒲)	(黄芩)	(射乾)
bohe 15g	sheng yiyiren 20g	liangiao 15g	zhebeime 15g
Mentha canadensis	Coix lacryma-jobi (生	Forsythia suspensa (連	Fritillaria thunbergii
(薄荷)	薏苡仁)	翹)	(浙貝母)
shangu 20g	chana chanaha 20a	chanyi 10a	iianasan 12a
shenqu 30g	sheng shanzha 30g	chanyi 10g	jiangcan 12g
Massa fermentata	Crataegus pinnatifida	Cicada	Silkworm
(神曲)	(生山楂)	(蟬翼)	(僵蠶)
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Dampness encumbering the spleen\stomach, pathogen constrained in the liver\gallbladder pattern

Symptoms: with or without fever, fatigue, dizziness, heaviness of the four limbs, chest oppression, poor appetite, dry mouth with a bitter taste, tongue coating white or greasy, pulse slippery.

Pattern: Dampness encumbering the spleen\stomach, constrained pathogen in the liver\gallbladder

Formula: Modified Chai Ping San, San Ren Tang or Modified Sheng Yang Pi Wei Tang

chaihu 20g	huangqin 12g	fa banxia 10g	shengjiang 12g
Bupleurum sp.	Scutellaria baicalensis	Pinellia ternata,	Zingiberis officinalis,
(柴胡)	(黄芩)	processed w\ licorice & lime	fresh
		(法半夏)	(生姜)
cangzhu 15g	sheng gancao 10g	houpo 15g	chanyi 10g
Atractylodes lancea	Glycyrrhiza sp., raw	Magnolia officinalis	Cicada
			, 上印 习习、
(蒼朮)	(生甘草)	(厚朴)	(蟬翼)
(蒼朮)	(生甘草)	(厚朴)	(焊異)
(蒼朮) jiangcan 12g	(生甘草) shenqu 30g	(厚朴) sheng shanzha 20g	(蟬異) danzhuye 15g
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jiangcan 12g	shenqu 30g	sheng shanzha 20g	danzhuye 15g

Lung Toxin Convalescence

Latent heat not cleared, dual qi\yin damage pattern

Symptoms: body heat, heart vexation and sleeplessness, sweating, shortness of breath and lassitude of spirit, dry mouth with desire to drink, lack of appetite, tongue red with little coating, pulse vacuous and rapid

Pattern: Latent heat not cleared, dual qi\yin damage pattern

Formula: Modified Zhuye Shigao Tang or Wangshi Qing Shu Yi Qi Tang

danzhuye 15g	sheng shigao 25g	renshen 15g	maidong 15g
Lophatherum gracile	Gypsum, unprocessed	Panax ginseng	Ophiopogon japonicus
(淡竹葉)	(生石膏)	(人參)	(麥冬)
fa banxia 10g	sheng gancao 10g	shanyao 30g	shenqu 30g
Pinellia ternata,	Glycyrrhiza sp., raw	Dioscorea opposita	Massa fermentata
processed w\ licorice & lime	(生甘草)	(山藥)	(神曲)
(法半夏)			
sheng shanzha 20g	chanyi 10g	jiangcan 12g	
Crataegus pinnatifida	Cicada	Silkworm	
(生山楂)	(蟬翼)	(僵蠶)	

Lung\Spleen Qi\Yin Dual Vacuity Pattern

Symptoms: fatigue, flusterdness, dry mouth, sweating, lack of appetite, abdominal fullness, stool not moving properly. tongue dull, coating white, pulse vacuous and rapid.

Pattern: Lung\Spleen qi\yin dual vacuity

Formula: Liu Junzi Tang w\ Modified Sheng Mai San or Dong-yuan's Modified Qing Shu Yi Qi

Tang

renshen 12g baizhu 15g sheng gancao 6g fa banxia 10g

Panax ginsengAtractylodesGlycyrrhiza sp., rawPinellia ternata,(人参)macrocephala(生甘草)processed w\ licorice & lime

(白朮) (法半夏)

wuweizi 15g

shengu 30g

Citrus reticulata Ophiopogon japonicus Schisandra chinensis Massa fermentata

(陳皮) (麥冬) (五味子) (神曲)

sheng shanzha 20g Crataegus pinnatifida (生山楂)

chenpi 12g

Formula for Prevention of Pneumonia

If you have come in contact with [potentially infected people] and you are elderly, [treating an] infant, obese, etc. This formula is useful.

Function: To boost qi and secure the exterior, transform dampness and resolve toxin, **Formula:** Modified *Yu Ping Feng San*

huangqi 12g chanyi 10g fangfang 15g

maidong 20g

Astragalus mongolicus Cicada Saposhnikovia divaricata

(黄芪) (蟬翼) (防風)

lianqiao 15g cangzhu 12g huoxiang 15g Forsythia suspensa (連 Atractylodes lancea Agastache rugosa

翹) (蒼朮) (藿香)