

◆ Research Paper

A research about the processing for producing remedy sheets that radiate far infrared rays and magnetic force

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Abstract

A study on processing for producing cure seat radiated by Original Infrared Rays and Magnatic force. We are well aware that Original Infrared Rays and Magnatic force influence on our human body beneficially. In the technical background of this research product, we treated that the product has some operations of ceramic hardwood charcoal, far infrared rays and magnetic, so it can serve large part curative values made of far infrared rays and magnetic force of ceramics. Also, in the special quality of the product deal with ceramic, hard charcoal, ferrite, gelatin what is needed in production. And among them, ferrite, ceramic and hard charcoal are introduced by the manufacturing process of the moleculeization. In concluding, this study described the manufacturing process on the basis of the worksheets and arranged theuseful effect which effect on human body.

There are so many symptoms in the pain of muscle. It's very various. for example, it is the cause of the liver, the spleen and a kidney function's weakening. the cause of the backbone subluxation, the cause of the shoulderjoint and scapula, the cause of the sacrum andiliacjoint, the cause of hip joint and the cause of a sprain. In this thesis, we mainly deal with the method which the muscle and nervous system disease by fatigue and a sprain cure seat radiated by Original Infrared Rays and Magnatic force. then, Original Infrared Rays and Magnatic force pack up trapezius muscle, gluteus minimum muscle, gluteus medius muscle, gluteus maximus muscle, piriformis muscle around the spine. through this course the moral pressure by the nervous system disease can be treat.

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1. Introduction

Far-infrared radiation is known for having a warm effect in deep body, and expansion of blood vessel, and having a good job of blood flow. In general, vibration of far-infrared has an almost same vibration number of every molecular vibration number of substance. So, when Far-infrared contacts a material, it occurs phenomenon of resonance with molecule of formation of material. So, every material activates, because Far-infrared intects energy in atom, molecule of foundation of substance, and the wave of rotationanal vibration agrees to the wave of substence. So, the vibration of Far-infrared accelates the vibration of molecule, molecules which is same to each wave make an ideal and vital principle complex to make an effect of increase to resonance[21].

Among the things, Far-infrared which has 8-14 μ m wavelength range is same wavelength range to molecule of composition of human. Also, it is very known for that magnatism has a effect of pain, many kind of apparatus of magnatic treatment is was placed on sale. There are numeral kind of apparatus of magnatic coverlet, directly fixation of small lodestone in skin, and so forth[12].

All livingthings of earth originate from the sea. Livingthing was birth to develop organic aminotic acid from inorganic aminotic acid. It was created from the six elements of water, inorganism, electricity, convection current, heat, and magnatism. It is not a taciturnity to speak of magnatism creates livingthings. Especially, magnatism is essential element to make a cell, and to repair a cell[9].

Orthopedic surgery in United states reported that magnatism of 5gauss has an ability to 1.5 times fusion of fracture of bone[22]. So, the goal of this research is to produce Far-infrared which is useful to human and the seat of treatment which takes advantage of the effect of the magnatic increase.

2. Technical Background of the Product

This technology is about manufacturing method of medical treatment sheet (remedy sheets) used for soothing pain of neuralgia, that is, lumbago or myalgia, etc, radiating infrared rays and magnetism.

The treatment-sheet, which is well known before, is usually spreaded on the surface of elastic clothes with anodyne medical compound and adhesive substance, and remedy sheet is used as like apply spread surface of elastic material or adhesive tape to the affected part. And if cobalt powder ad cobalt samarium, as a powdered a magnetic body, is spreaded or copied on the cloth to make the magnetic body's layer, we can get a superior treatment-sheet[9]. However, if we mix cobalt powder with water and glue in order to spread or copy on the cloth, there is a problem that cobalt get rusty through an oxidation reaction because of water. Also there will be another problem that is possible to make explosion of hydrogen gas and vapor because of preservation in a hermetically sealed state. when we make hydrogen through reducing water.

$\text{Sm}_2\text{Co}_{17}$ (an alloy) is a cobalt alloy which is included 20~25Wt% of Sm, 10~20Wt% of Fe, 3~10Wt% of Cu, 1~5Wt% of Zr each, so we can get the superior magnetic peculiar properties, but plastic manufacturing is so difficult that it is needed to pulverize it with about 500 μm in order to use it as a magnet. Because of that, the surface area is getting increased and it comes to easy to oxidize when it is mixed with water. When $\text{Sm}_2\text{Co}_{17}$ is oxidized, the matter of oxidation is so important because magnetic peculiar properties comes to heat up.

If we use oil in stead of water because of oxidation, the meshes of spread equipment and copy equipment will be got clogged or the meshes of cloth will be got clogged as oil's peculiar properties. Therefore the oil isn't suitable for that.

As these matters, we can try plate cobalt powder's surface with gold but its cost must be raised. Manufacturing method of treatment-sheet is as following: Not only woven fabrics but also various kinds of materials is possible for cloth. The magnetic body's layer should be attached to $\text{Sm}_2\text{Co}_{17}$ an alloy compounded of binder mixed with material for oxidation prevention adhesives by printing[22].

It is good for adhesive material' layer that adhesive substance included natural rubber or zinc oxide, but it will be also good for using a medicine which is included Polyacrylic acid, Natrium, Solitol, Propyleneglycol or adhesive substance mixed with anodyne medicine which is included ℓ -menthol, campher and peppermint oil. Also you can mix it with the above magnetic body's layer. To make an ion, you can make binder contain hardwood charcoal. Also, it can include ceramic which radiates infrared rays, preventing layer of adhesive material from drying. When this treatment sheet is used, if it should be cut proper size, embossing film should be taken off. It can be hard to detach from an affected part. Feature of this magnetism treatment sheet is like following:

① Even though we use it for a joint, cloth is not easy to take it off, because cloth possessed a high elasticity is used.

② Because cobalt powder of magnetism layer is prevented from oxidation by oxidation prevention material, even long time later it is oxidized and does not get rusty, so we are able to get a little magnetic field.

③ It can make economic effects because we do not need to concern about its surface as plating, which is expensive.

④ Because cobalt powder is formed very near cloth by printing, this point can also make some economic effects.

⑤ We can get proper effects to the affected part through each part can be used separately.

⑥ At first, an adhesive material can be attached a compound of a magnetic substance and oxidation prevention on printing and spreading.

⑦ Or it is possible that an adhesive material can be attached a magnetic substance.

⑧ Because the layer of magnetism can include some adhesive material and be blended drugs, the constituent is always not defined to a sonstituent. Even though it does not include drugs, we can get magnetic effects by the layer of magnetism.

In addition, a layer of magnetic and adhesive material can be formed on both sides of cloth. Also, when making the above magnetic body's layer, you can make it through

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spreading or sticking by not only method of print copying but also method of spraying. No matter how do, it is prevented that magnetic body is melting because it mixed prevention substance with a powdered magnetic body's oxidation as well as it gains unlimited magnetic effect for a quite long time.

Also, it is good to make magnetic body's layer which is included the prevented substance of oxidation without making the adhesive substance's layer. In this case, treatment sheet also can be for clothing so it is used widely. For example, if underwear contain the magnetic body's layer especially on gluteus minimum muscle, gluteus medius muscle, gluteus maximus muscle, lumbago can be treated. Like this, I came to study the processing which included powder ceramic and the magnetic body's layer through the effects of ceramic and hardwood charcoal as well as infrared rays and magnetism because it has like this, I came to study the processing which included powder ceramic and the magnetic body's layer to let effects of the infrared rays and magnetism affect on a wide part with the effect of ceramic & hardwood charcoal, at the same time, with the effect of magnetism.

3. Feature of product

This product is a treatment sheet intended to cure neuralgia or myalgia and of the waist and joints and relieve its pain, radiating infrared ray and magnetism.

3.1 Technique area of product & former technology

The former PAS is usually to spread drug and adhesive substance to flexible woven fabrics. Mixture substance is used by attaching spread surface to the affected part, or adhesion cloth is used not to detach from the affected part. Also, a herb medicine has been well known of effects, alleviation of pain, astringent, for lumbago, the neck pain, and shoulder joint pain.

PAS as the above statement is not suitable to people who have weak skin showing allergy like an eruption, a spasm and itching had symptoms when adhesive substance is used for a long time due to use acryl medicine. In addition, Magnetism PAS is Known of Magnetic treatment in a way attaching the original state magnet of about diameter 5mm, thickness 2mm to the affected part by using adhesion tape.

However, because the adhesive side is certainly in accord with side of magnetism effect, there are problems that it is not appropriate to effect specific part of body and that magnetism is dispersed and to get treatment effect through useful magnetism is difficult[22].

3.2 Technical purpose of product

PAS product radiating the infrared rays and magnetism is mixed processing the following materials.

3.2.1 Hardwood charcoal

The hardwood charcoal is almost aseptic state as it is burned at the high temperature, is alkali as it includes much ash, and includes oxygen as its surface area is wide. The hardwood charcoal has various forms and constituents as each temperature burned. Generally, it is divided into fine charcoal and bituminous coal on a large scale. About 25~30% hardwood charcoal is produced by burning timber, and about 5% grass is produced. We can see thousands of holes like a beehive if coal is extended 1500 times through a microscope. Its cross section is about 200~400 square meter per 1g if the surface inside of a vesicle is measured. The vesicle of coal have holes of various size from 1/1000mm and proper structures for microorganism. It is good to the propagation of useful microorganism like bacteria and germs as the size of hole. The absorption of surface inside if coal prevents it from decay and is suitable for air clean.

Moreover, we can keep proper humidity by using an electric field radiated from coal and prevent putrefying diseases. Since long time ago, in the oriental medicine, hardwood charcoal has been called 'Juk-Yeok', used to cure a palsy and glucosuria. Even in the folk remedies, it is used for children's convulsions[24]. It must be processed molecule-work to use good material, hardwood charcoal for this product and produce a molecule material at the size of less than 1 μ m.

3.2.2 Ceramic

Ceramic has been used as a medicine stone from 2~3000 years ago, and content about ceramic has been found at the documentary literature of 'Song'. It is more certain that the stone like boiled rice with barley taste, warm and use in a harmless antiphlogistic of an abscess on one's back, a swelling, and a skin disease. It is printed in a botanical list that was written by Lee si jin, a great master of an herb medicine science, about 400 years ago, the Ming dynasty. After that it was recorded on medical science and pharmacology great dictionary. And the effect of medicine and acupuncture also was explained in donguibogam, written by Heo-jun, the Chosun Period.

Ceramic is a quartz porphyry, natural mineral. In ceramic, there are more than 45 kind of an oxidized substance, the biggest. And there are tens of thousands kind of an oxidized substance, the maximum. When ceramic contact with water, it elute a lot of inorganic matter that is useful in human body. and it radiate the highest far-infrared than any other objects. Whenever it reduce to powder, the mineral element is mixed well and have many particle. Moreover, we can know that as the size of the powdered element, the far-infrared emission elution amount is increase, by the principle of tetartohedry[21]. It can be used in many purposes, namely a living body of human and animal, birth and breeding and maturing so on. Inorganic matter element is not a source of a creature energy but it help the growth, birth and breeding, so it sustain life normality.

3.2.3 Ferrite

Originally, it was to call ironston, but it is to call all sort of ceramic of magnetic oxide of ironoxide. In the wide meaning, it refer to all of magnetic ceramic. we can classify it by magnetism, soft, hard. Soft ferrite is the soft magnetic material to be magnitized in a

magnetic field and it is a peculiarity to make a little loss of an eddy current in a high frequency field. Mn-Zn, Ni-Zn taxon ferrite is typical and it made from powered metallurgy. Hard ferrite is hard magnetic, that is permanent magnet. and it is made use of a magnetic field production. Ba, Sr ferrite of ferrite are representative, and it is aeolotropic and cheap. Diamagnetism ferrite is not easy to be magnetized, if it is magnetized, it maintains the state, and is easy to be an element. $\gamma\text{-Fe}_2\text{O}_3$ like needle is representative. Also, if cobalt is attached by $\gamma\text{-Fe}_2\text{O}_3$, the character is improved, and this form is main[9].

3.2.4 Gelatin

This material is made by heating collagen with water which is acquired by disposing the bone, skin, ligament and tendon of animal with alkali. This material is colorless, white or light yellowish brown color sheet, flinders, kernel or powder and does not taste.

This material is easy to be melted in the boiling water and is not melted in the ether and ethanol. When this is put into the water, this is not melted and swells up gradually and absorbs water at 5~10 times. The starting point of this material which is acquired by disposing with acid is PH 7.0~9.0 and it of this material which is acquired by disposing with alkali is PH 4.5~5.0.

The change from collagen to gelatin is due to hydrolysis of peptide chain or due to cleavage of salts or hydrogen combination between peptide chain. It is just expanded in the cold water but becomes the sol to be melted in the hot water or becomes elastic gel at the room temperature. This state is gelli which is used for shape or solid by mixing into food with solidification quality. If gel is heated, it returns sol. It is ununiformity material which consists of molecular weight, 15,000~25,000, and is not melted in the organic solvent[25].

3.3 Processing of the product

The processing of this product is explained by a cross section of treatment sheet radiating the infrared rays and magnetism and worksheet.

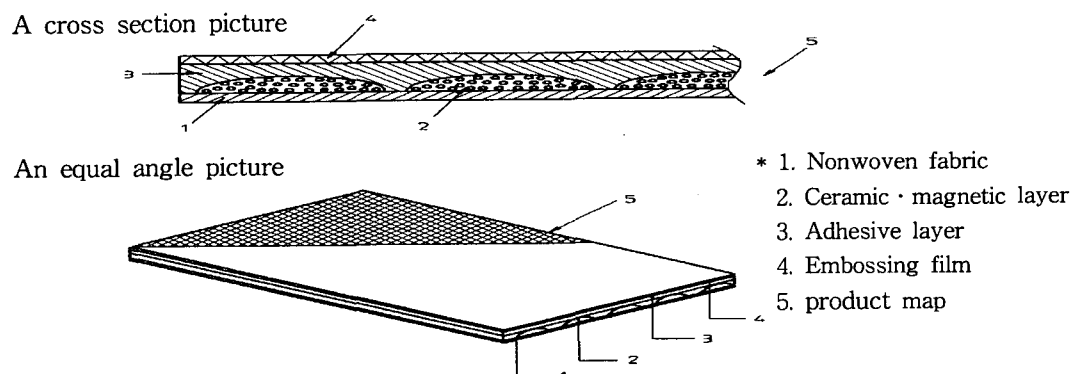


Figure 1. a cross section picture of treatment sheet, radiating the infrared rays and magnetism

Table 1 worksheet of treatment sheet, radiating the infrared rays and magnetism.

order	processing	content	conveniences	note
1	putting material ▼	putting raw material, ceramic · ferrite · hardwood charcoal etc	Crasher	
2	differential substance ▼	making material input into a differential substance less than $1\mu\text{m}$	Attrition Mill	
3	compound ▼	compounding a mineral and plant material using Mixing Machine	mixer	
4	main Line input ▼	putting embossing film and mixed drugs on the woven fabrics	pass main machine	
5	drying ▼	drying using conveyor	conveyor	
6	cutting ▼	cutting proper size	cutting machine	
7	packing ▼	vacuum package using standard packinf paper	packing machine	
8	magnetic	magnetic more than 14 gauss	magnetic machine	

The Figure 1 is a hardwood charcoal - the infrared rays PAS(Para-Amino-Saycyclic Acid). In the a cross section figure 1 is cloth, base 2 is human-affinity ceramic layer based on a hardwood charcoal, 3 is a layer of adhesive substance and 4 is embossing film.

Flexible woven fabrics is appropriate to cloth 1, but various kinds of material can be used. The layer of hardwood charcoal, 2, processes differential materials, hardwood charcoal, ceramic, ferrite less than $1\mu\text{m}$. ferrite among them should be compounded of differential substance less than $0.9\mu\text{m}$ for magnetism of more than 14 gauss at the high temperature, more than $1,500\text{ }^{\circ}\text{C}$. Compounding machine of thermal waters is used.

Not only gelatin adhesive substance is good for the layer of adhesive substance, 3, but also drugs including Arabic rubber(CMC), Polyacrylic acid, natrium, Solbitol and Propyleneglycol, 1-mentol, dl-campher or adhesive substance mixed with drugs including peppermint oil which can relieve pain is good. Embossing film, 4, prevent adhesive substance, 3 from drying. The ceramic layer based on a hardwood charcoal is spreaded on the adhesive substance in the form of spray. The PAS made by process of the above statement, radiating the infrared rays and magnetism makes an effect on the affected part after cutting proper size, taking embossing film, 4, off and attaching the product.

3.4 A clinical testing effect of product.

Muscle become stiff and twist the spine when it's fatigue increase cumulatively. If muscle have a subluxation, it is pressed by the nervous system. So patient feel severe pain from the stiffness rigion and break out orthopedic surgery or physician disease[23].

In this clinical testing, we deal with the application of far-infrared which has a same

wavelength range with a molecule of the human body. And we deal with the treatment sheet which is made of magnetic power. This magnetic power solve the pain by line up a cell. There are 8 typical cases that can be remedy with treatment sheet.

This data collected from 2001 September 1 to December 15, and unreliable data was excepted. We fixed the treatment period as 2days at least to 15days the largest. We checked some nature of a disease, what have not any change all kind of disease in spite of pass by time. There is a general rule that the treatment sheet paste differently as each kind of disease and have to provide fluently. And(subluxation spine) make the easily stream of the nervous system by reform the backbone. The clinical testing institution is "Korea hye min doctor's office"

Table 2. The effect of treatment sheet at each kind of disease

Order	the name of a disease	f a i r treatment date	objector	perfect improvement	a little improvement	a changeless	getting worse	the amount used (one time)
1	lumbago	15days	82persons	49persons 60%	16persons 20%	17persons 20%	0	6 sheets
2	muscular pain in the waist	5	86	69 80%	13 15%	4 5%	0	6
3	a stomachache	2	64	45 70%	13 20%	6 10%	0	3
4	menstrual pain	2	58	46 80%	6 10%	6 10%	0	3
5	a knee joint pain	10	94	56 60%	9 10%	29 30%	0	3
6	scapular pain	15	60	39 65%	9 15%	12 20%	0	3
7	gastritis	5	102	71 70%	20 20%	11 10%	0	3
8	pain of the shoulder	5	88	70 80%	9 10%	9 10%	0	3

* The clinical testing institution : Korea hye min doctor's office

3.4.1 A clinical observation of lumbago which is a curative means make use of treatment sheet.

80% persons of mankind experience lumbago. The waist is very important at human activities. So it need a lot of quantity of motion. Nowadays the average longevity of human life extend more and more, and the industry activity is active. As a result, the frequency of lumbago increased more and 20%, outpatient visited to orthopedic surgery. And 35~60% industrial worker experienced when they were youth, and loss their labor power.[7][8][23]

Most of lumbago patients complain of a pain in 3rd to 5th spine and many curer be dazzled by it. If you see the human body with solid pose, in the case of underdeveloped muscle, a skeletal structure and a nerve, most lumbago pains are pain of around gluteus medius muscle, gluteus minimum muscle. When lumbago have a problem, it effect on both side of nerve muscle certainly[5]. So we pasted the treatment sheet on both side of nerve muscle and remedied for the largest 15days. As you see in <Table 2>, the result of treatment is 65 persons's recovery among 82 testing persons

3.4.2 A clinical observation of the waist muscular pain which is a curative means make use of treatment sheet.

This case is different from lumbago and muscular pain. Generally, most of them are piriformis muscle disorder.[23] The treatment sheet need 4 to 6 paper. There are pain in gluteus medius muscle, gluteus minimum muscle so you have to paste the treatment sheet on both side of muscles for 5days at least. As you see in <Table 2>, the result of treatment is 86 persons's recovery namely 95%, among 82 testing persons.

3.4.3 A clinical observation of a stomachache which is a curative means make use of treatment sheet.

A stomachache make the moving of the intestines difficulty and the excessive secretion of intestinal juice. This is in quick effect of parasympathetic the nervous system[23]. After all, it is as unbalance of an autonomic nerve. A parasympathetic nerve flow out in 2nd to 4th Sacrum, so paste 3 treatment sheet on it. As you see in <Table 2>, the result of treatment is 58 persons's recovery namely 90%, among 64 testing persons.

3.4.4 A clinical observation of a menstrual pain.

Which is a curative means make use of treatment sheet. In this case, like case of a stomachache, paste treatment sheet more 2days at least, The standard is Sacrum. As you see in <Table 2>, the result of treatment is 52 persons's recovery namely 90%, among 58 testing persons.

3.4.5 A clinical observation of a knee joint pain which is a curative means make use of treatment sheet

Every nerve dominance, so nerve dominance of anterior, inferior, posterior, superior is different. So the muscle pain is also different. In frontipetal, there is a pain in the end of sartorius, adductor, gracilis muscle[23]. You paste treatment sheet on the pain region for 10days. As you see in <Table 2>, the result of treatment is 65 persons's recovery namely 70%, among 94 testing persons.

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3.4.6 A clinical observation of scapular pain which is a curative means make use of treatment sheet.

In the modern medical science, most doctors give the scapular pain name of pain of the shoulder. But it is wrong interpretation. If you raise your hand up to horizontality, it is a shoulder joint. But above the horizontality, scapular joint go up by rotation[15]. As a result. paste treatment sheet on the pain region for 15days at largest. As you see in <Table 2>, the result of treatment is 48 persons's recovery namely 80%, among 60 testing persons.

3.4.7 A clinical observation of a gastritis which is a curative means make use of treatment sheet.

A gastritis is state of preventive depression for parasympathetic nerve. Finally, we have to increase the function of the sympathetic nerve[23]. The sympathetic nerve is in the both side of the backbone. So the treatment sheet paste on a thoracic vertebra 1st to 12th the entirety[35]. As you see in <Table 2>, the result of treatment is 91 persons's recovery namely 90%, among 102 testing persons.

3.4.8 A clinical observation of a stitch in the shoulder which is a curative means make use of treatment sheet.

The main cause of a stitch in the shoulder symptoms is too much ues of muscle, uncomfortable pose and stress so on[8]. The treatment sheet paste on the pain region for 5days at largest. As you see in <Table 2>, the result of treatment is 79 persons's recovery namely 90%, among 88 testing persons.

4. Conclusion

The product manufactured through processing research to produce treatment sheet radiating infrared rays and magnetism is beneficial to human by power of the infrared rays emitted in the ceramic layer and magnetism originated from ferrite.

First, it results in smoothing circulation of blood and relieving pain of nerves, muscles, bone structure and blood vessel.

Second, it prevents skin from acidifying and provides more oxygen to skin because hardwood charcoal includes a lot of oxygen and mineral due to wide surface area and alkali.

Third, Ceramic layer including hardwood charcoal affects activating cell and promoting metabolism for the infrared rays invading skin by making a resonance movement of cell because it radiates the infrared rays on normal temperature.

Fourth, the magnetism come from raw material of magnetic substance can cause effect which promotes circulation of blood smoothing an extravasated blood by making proper 8~14 gauss for our body absorb our body.

Fifth, magnetism and the infrared rays come from hardwood charcoal and ceramic ferrite, prevent from an allergy reaction due to keep proper humidity.

Sixth, the absorption power of hardwood charcoal and ceramic is convenient to move and act because it does not have smell itself.

Through use of treatment sheet which has many advantages as above-mentioned, we can get a recovery result each kinds of pains. so I sum up it like this.

- ① Lumbago mostly make a pain of glutes medius muscle, gluteus minimum muscle. That effect on supraduction nerve, so treatment sheet paste on from spina iliaca anterior, spina iliaca posterior to the thighbone, greater trochanter region. It need 2 or 3 treatment sheet.
- ② When you sprain or come out your waist, the most case of them is come out of piriformis. It need 4 or 6 treatment sheet. and paste of both side of muscle.
- ③ The reason of a stomachache is an unbalanced autonomous nervous system. This is because of a bowel exercise disorder, or excessive secretion of intestinal juice. A parasympathetic nerve flow out in 2nd to 4th Sacrum, so paste treatment sheet on it.
- ④ Menstrual pain cystitis is also for an unbalanced autonomous nervous system. You paste the treatment sheet on both side of Sacrum area and hip joint area.
- ⑤ Every nerve dominance, so nerve dominance of anterior, inferior, posterior, superior is different. So the muscle pain is also different. In frontipetal, there is a pain in the end of sartorius, adductor, gracilis muscle. You paste treatment sheet on the pain region for 10days.
- ⑥ The reason of a gastritis, indigestion, intercostal neuralgia, the whole body weariness, the liver disease so on are state of preventive depression for parasympathetic nerve. Finally, we have to increase the function of the sympathetic nerve. So the treatment sheet paste on a thoracic vertebra 1st to 12th the entirety .
- ⑦ A stitch in the shoulder, inferior pain of a shoulder blade, pain of activity is paste the treatment sheet on the pain region.

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