**Supplementary Table 4.** Korean medicine CPGs containing recommendations on pharmacopuncture

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| **CPG** | **ICD main code(s)** | **ICD sub code(s)** | **Recommendation grade / level of evidence** | **Alone/add-on** | **Recommendation No.** | **Recommendation on pharmacopuncture** | **Clinical considerations regarding pharmacopuncture** |
| Tension-type headache [227] | G44.2 | G44.2 | C | Very Low | Add-on (Complex Korean medicine) | R12 | Pharmacopuncture combined with herbal medicine may be considered in patients with tension-type headache as pharmacopuncture combined with herbal medicine is more effective for symptom improvement than Western medicine treatment. | •When using pharmacopuncture to treat tension-type headache, treatment is performed according to pattern identification after meridian diagnosing the cause and region of pain.•For acute headache, treatment focuses on Hwangryunhaedok-tang and Qi type pharmacopuncture, and for chronic headache, lubricant type (Juglandis Semen, CF), BVP, HPP, and Regulating Ascending Kidney Water and Descending Heart Fire pharmacopuncture can be used.•The literature included for this recommendation was a study showing that pharmacopuncture combined with herbal medicine was more effective than Western medicine alone. As this is indirect evidence, additional evidence is needed to clarify the clinical utility of pharmacopuncture. |
| Gout [228] | M10 | M10 | GPP | CTB | Alone | R8 | Pharmacopuncture can be considered in adults to improve symptoms of acute gout. | •Pharmaocupuncture is applied at the site of pain and acupoints around the area.•A hypersensitivity skin test and medical history taking are required prior to BVP administration. |
| Irritable bowel syndrome [229] | K58.0, K58.9 | K58.0K58.9 | B | Moderate | Alone | R6 | Acupuncture should be considered over conventional Western medicine treatment to improve symptoms in patients with IBS. | ① Acupoints, such as ST25, GV20, EX-HN3, ST36, ST37, CV12, ST39, SP6, SP9, CV6, CV4, BL25, and LR3, are used for IBS. In particular, ST25, ST36, ST37, SP6, and EX-HN3 were frequently used for IBS with diarrhea treatment.② Duration of treatment: The recommended period of acupuncture treatment including electroacupuncture and thread embedding is at least 4 weeks. However, the period may vary depending on treatment response or disease severity.③ Treatment method: A treatment regimen of once/day, 30 minutes/session, on every other day or 5 days/week, inducing deqi is most common. For electroacupuncture, a regimen of once/day, 15-30 minutes/session, on every other day or 5 days a week, and application of a continuous wave of 60–200Hz is most common. For thread embedding (maeseon), a regimen of once every 7-10 days, and total 3-5 sessions for number of treatments is generally used.④ In electroacupuncture, acupoints such as ST36, ST25, LR3 and 1 chon (approx. 3.33cm) superior, inferior, and bilateral of the navel are used. |
| C | Low | Integrative | R8 | Integrative treatment of acupuncture and conventional Western medicine may be considered over conventional Western medicine alone to improve symptoms in IBS patients. | ① Acupoints, such as ST25, GV20, EX-HN3, ST36, ST37, CV12, ST39, SP6, SP9, CV6, CV4, BL25, and LR3, may be used.② For all subtypes of IBS, integrative treatment of acupuncture and Western medicine may be used.③ Acupuncture treatment refers to manual acupuncture, electroacupuncture, warm acupuncture, and thread embedding (maeseon).④ Symptom improvement was reported in acupuncture combined with conventional Western medicines such as trimebutine maleate and colofac (meveberine). |
| Osteoporosis [230]  | M81 | 　 | C | Low | Alone | R9 | Pharmacopuncture may be considered to improve BMD and osteoporotic pain. | •Acupoints such as BL23, ST36, BL26, SP6 can increase bone density by promoting absorption of nutrients to increase bone resorption.•In pharmacoacupuncture treatment, Cervi Pantotrichum Cornu is clinically used, and depending on the symptoms, CF, Astragali Radix, Drynariae Rhizoma, Polygonati Rhizoma, and Notoginseng Radix et Rhizoma may be additionally considered. |
| C | Low | Add-on | R10 | Pharmacopuncture combined with conventional treatment may be considered to improve BMD, pain, and indicators of osteoporosis. | •Pharmacopuncture combined with Western medicine treatment can increase the therapeutic effect in osteoporosis treatment.•It is possible to consider use of Dalbergiae odoriferae Lignum, Astragali Radix and Notoginseng Radix et Rhizoma as raw materials.•Acupoints such as GV4, GV3, BL23, CV6, BL25, BL26, ST36, SP6, EX-B7 can be used.•In pharmacoacupuncture treatment, Cervi Pantotrichum Cornu is clinically used, and depending on the symptoms, CF, Astragali Radix, Drynariae Rhizoma, Polygonati Rhizoma, and Notoginseng Radix et Rhizoma may be additionally considered. |
| C | Low | Alone | R15 | Thread embedding (Maeseon) may be considered to improve related indicators of osteoporosis. |  |
| B | Moderate | Add-on | R16 | Thread embedding (Maeseon) in combination with conventional treatment should be considered to improve BMD, pain, and related indicators of osteoporosis. | •If thread embedding (maeseon) is considered to treat osteoporosis, acupuncture points can be selected according to the patient's pattern differentiation.•If thread embedding (maeseon) is used to treat osteoporosis, treatment effects can be enhanced through combined use with Western oral medicine such as calcium carbonate. |
| Post-operative treatment of lumbar musculoskeletal disease [231] | Z54.0Z98.8 | Z96.64M4725M4726M4728M4805M4806M4807M4808M5416M543M544M545M75.1M17M51 | C | Low | Integrative (with conventional rehabilitation)  | R6 | Concurrent treatment of pharmacopuncture or BVP and conventional rehabilitation, or integrative traditional Korean medicine treatments may be considered for patients in postoperative rehabilitation or patients postoperatively presenting with persistent or recurrent pain. | Bladder meridian or Hyeopcheok acupoints (EX-B2) may be selected when performing pharmacopuncture or BVP treatment for patients in postoperative rehabilitation or patients with persistent or recurrent postoperative pain. A hypersensitivity skin test must be performed prior to BVP administration, and the frequency and dose need to be decided carefully. To prevent infection, acupoints near the incision site should be treated with care and caution. |
| Post-operative treatment of knee musculoskeletal disease [232]  | Z96.64  | M17 | C | Very Low | Integrative (with conventional rehabilitation) | R6 | Evidence for the efficacy and safety of the combined treatment of pharmacopuncture and conventional rehabilitation in patients in the rehabilitation phase after total knee arthroplasty could not be obtained. Pharmacopuncture combined with conventional rehabilitation may be considered based on clinical practice and expert group consensus. | Pharmacopuncture treatment for total knee arthroplasty patients can be performed for anti-inflammatory, promotion of blood flow, and pain relief purposes.To prevent infection, acupoints near incision site should be treated with care and caution. A hypersensitivity skin test must be performed prior to the BVP administration, and the frequency and dose should be carefully decided. |
| Post-operative treatment of rotator cuff muscle musculoskeletal disease [233] | Z54.0Z98.8  | M75.1 | C | Very Low | Integrative (with conventional rehabilitation) | R10 | Pharmacopuncture or BVP combined with conventional rehabilitation may be considered over conventional rehabilitation alone for patients in rehabilitation after rotator cuff surgery. | Acupoints around the shoulder such as LI15, TE14, SI11, ST12, GB21, SI15, SI14, and Ashi points may be considered for pharmacopuncture or BVP. When treating acupoints around the thoracic cage such as GB21, caution should be given to pneumothorax. A hypersensitivity skin test must be performed prior to pharmacopuncture or BVP administration, and the frequency and dose must be carefully determined. Careful consideration of the patient's nervous, digestive, and circulatory system and systemic symptoms other than the patient's pain and discomfort complaints are needed. |
| Migraine [234]  | G43 | 　 | B | Moderate | Alone | R19 | Pharmacopuncture can be considered for migraine symptoms as it may be more effective than placebo pharmacopuncture or general conventional medicine in patients with migraine. | Acupoints such as GB20, EX-HN5, GB21, and GB8 may be considered. According to the literature, CF, Cnidium officinale Rhizome (川芎), and Stauntonia hexaphylla (Thunb.) Decne. (野木瓜) are used as pharmacopuncture solutions. According to Korean case reports and pilot studies, Hwangryunhaedoktang pharmacopuncture, Chinemys reevesii Gray, or CF pharmacopuncture can be used based on patient symptoms. |
| Degenerative lumbar spinal stenosis [235]  | M48.00 | M48.05M48.06M48.07M48.09 | C | Very Low | Add-on (Complex Korean medicine) | R6 | For pain relief in degenerative lumbar spinal stenosis, complex Korean medicine may be considered over single Korean medicine.  | Acupuncture and acupoint injection of herbal medicine (subcutaneous injection of Salviae miltiorrhizae Radix/Astragali Radix decoction [丹蔘/黃芪]) may be considered. |
| Dementia [236]  | F00F06.7 | F01 | C | Moderate | Alone | R25 | HPP may be considered for depression, anxiety, anger, and insomnia in patients with mild cognitive impairment over placebo. | •Acupoints such as GV20, both ST36, and CV12 may be considered for HPP treatment in patients with mild cognitive impairment.•HPP has properties of replenishment of Qi and tonification of Blood (益氣養血), and reinforcement of Nutrients (補精).•Pharmacopuncture should be considered more strongly if the patient prefers non-pharmacological treatment.•Individual research should be referred to for treatment duration, frequency and strength. |
| Dysmenorrhea [237]  | N94.4 | 　 | B | Low |  | R3 | Other acupuncture treatments (thread embedding, warm acupuncture, auricular acupuncture) used alone or as add-on should be considered over other treatments (Western medicine or placebo) to improve symptoms of menstrual pain in patients with primary dysmenorrhea. | 　 |
| Inconclusive | Alone | R3-1 | Recommendation inconclusive regarding the clinical question "Does administering thread embedding in primary dysmenorrhea patients result in menstrual pain-related scale improvement compared to Western medicine (NSAIDs)?" | •Acupoints such as CV4, EX-CA1, SP8, BL32, and SP6 can be considered for thread embedding points in primary dysmenorrhea treatment.•For thread embedding, insert deep into subcutaneous fat layer. |
| C | Low |  | R4 | Pharmacopuncture may be considered over other treatments (e.g., normal saline pharmacopuncture, acupuncture alone, conventional medicine) to improve menstrual pain in patients with primary dysmenorrhea. | 　 |
| C | Low | Alone | R4-1 | Pharmacopuncture may be considered over normal saline pharmacopuncture to improve symptoms of menstrual pain and abdominal temperature in patients with primary dysmenorrhea. | •Acupoints such as SP6, ST25, CV4, ST36, SP10, and SP9 can be considered for primary dysmenorrhea.•Salviae miltiorrhizae Radix and HPP can be used to treat primary dysmenorrhea. |
| B | Moderate | Alone | R4-2 | Pharmacopuncture should be considered over conventional medicine to improve symptoms of menstrual pain in patients with primary dysmenorrhea. | •Acupoints such as CV4, CV2, ST36, GV2, BL30, and BL32 can be considered for primary dysmenorrhea.•Regarding treatment timing, pharmacopuncture for primary dysmenorrhea can be considered two days before menstruation. |
| C | Very Low | Add-on | R4-3 | Combined treatment of acupuncture and pharmacopuncture may be considered over acupuncture alone to improve symptoms of menstrual pain in patients with primary dysmenorrhea. | •ST25, BL32, SP6 can be considered for primary dysmenorrhea.•CV3, SP6, SP8, EX-B8, and BL32 can be considered for pharmacopuncture points in combined treatment of acupuncture with pharmacopuncture, and other acupuncture points can be added based on diagnosis.•HPP and Angelica Radix pharmacopuncture can be used to treat primary dysmenorrhea.•The duration of pharmacopuncture treatment can be considered from 2 wks to 3 mos. |
| C | Low | Add-on | R8-6 | Combined treatment of thread embedding and Chuna may be considered over no treatment to improve symptoms of menstrual pain in patients with primary dysmenorrhea. | •CV12, CV6, CV4, EX-CA1, SP10, SP8, and SP6 can be considered for Chuna, and CV4, SP8, SP6, and BL32 can be considered for thread embedding in primary dysmenorrhea treatment. |
| Insomnia disorders [238]  | F510G470 | F518F519F518AG470AG470BG472G472CG478G479 | C | Low | Alone | R2-4-1 | Pharmacopuncture may be considered to treat insomnia over sleeping pills. | Pharmacopuncture types include Ciwujia injection (刺五加注射液), and Qingkailing injection (清開靈注射液). |
| Anxiety disorders [239] | F41.1 | F43.1F40.1 | B | Moderate | Integrative (for generalized anxiety disorder) | R10-5 | Thread embedding combined with anxiety disorder treatment drugs should be considered over anxiety disorder treatment drugs alone in adults to improve symptoms of generalized anxiety disorder. | •Acupoint prescription: GV14, BL18, PC6, SP4, BL57 |
| C | Low | Alone (for panic disorder) | R15 | Thread embedding may be considered over anxiety disorder treatment drugs in adults to improve symptoms of panic disorder. | •Acupoint prescription: BL23 (left/right alternation), SP6 (left/right alternation), CV4 |
| Allergic rhinitis [240] | J303 | J301J302J304 | C | Very Low | Alone | R17 | Thread embedding may be considered in patients to improve the main symptoms of allergic rhinitis. | •Acupoints: Acupoints such as LI20, BL13, ST36 and BL23 are mainly used, and acupoints such as EX-HN8, EX-HN3, TE21, LI11, ST25, CV6, GV14 and BL20 may be otherwise considered.•Duration of treatment: Once/2 weeks, over a total 1-2 months•Precautions for Korean medicine doctors: To maintain sterilization before and after the procedure, Korean medicine doctors should use disposable masks and sanitary hats, wear disposable sterilized latex gloves after hand washing, and disinfect the area to be treated using povidone or alcohol swabs before the procedure. After conducting the procedure using disposable sterilized thread embedding devices, lightly press the treated area using alcohol swabs.•Precautions for patients: Avoid direct contact with water with the treatment area within 3 days of treatment. Avoid use of cosmetics, excessive exercise, alcohol consumption, and use of saunas. |
| C | Low | Add-on | R18 | The combination of thread embedding, acupuncture and moxibustion may be considered in patients to improve the main symptoms and quality of life of allergic rhinitis. | •Main acupoints for thread embedding: Acupoints such as BL13, BL20, BL23, BL12, CV12 and CV6•Acupoints for acupuncture and moxibustion: Acupuncture administered at acupoints such as LI20, EX-HN8, EX-HN3, GV23, ST36 and BL7, and moxibustion administered at acupoints such as ST36, BL13 and GV14.•Duration of treatment: Thread embedding administered once/2 weeks, for a total 1-2 times, and acupuncture and moxibustion administered every day or every other day for 10 days-4 weeks.•Precautions for Korean medicine doctors: To maintain sterilization before and after the procedure, Korean medicine doctors should use disposable masks and sanitary hats, wear disposable sterilized latex gloves after hand washing, and disinfect the area to be treated using povidone or alcohol swabs before the procedure. After conducting the procedure using disposable sterilized thread embedding devices, lightly press the treated area using alcohol swabs.•Precautions for patients: Avoid direct contact with water with the treatment area within 3 days of treatment. Avoid use of cosmetics, excessive exercise, alcohol consumption, and use of saunas. |
| Hypertension [241]  | I10 | 　 | C | Moderate | Integrative | R12 | Antihypertensives combined with pharmacopuncture over antihypertensives alone may be considered to lower blood pressure in patients with hypertension. | 　 |
| Climacteric and postmenopausal syndrome [242] | N95.1 | N95.2N95.3N95.8N95.9N39.3N32.81 | B | Low |  (For hot flush·menopausal and postmenopausal symptoms) | R4 | Thread embedding (Maeseon) may be more effective than hormone replacement therapy for treating menopausal, postmenopausal facial flushing and other menopause-related symptoms, and should be considered as a treatment option. | •Before administering thread embedding (maeseon), patients should be advised of risk of bleeding, infection, and granuloma formation, and obtainment of patient consent forms should be considered.•To ensure safety of thread embedding (maeseon), careful attention should be paid to education and disinfection.•Thread embedding (Maeseon) should be considered in treatment of menopausal and postmenopausal hot flashes and other menopause-related symptoms, mainly using BL23, GV4, and CV4, in conjunction with BL15, BL18, and SP6 acupoints.  |
| GPP | CTB |  (For hot flush·menopausal and postmenopausal symptoms) | R5 | Pharmacopuncture is recommended as an auxiliary therapy for menopausal and postmenopausal syndrome based on expert group consensus. | HPP, and Eight Principles pharmacopuncture may be used. |
| B | Very Low | Complex (for hot flush·menopausal and postmenopausal symptoms) | R8 | Thread embedding combined with electroacupuncture may be more effective than hormone replacement therapy in treatment of hot flushes and other menopause-related symptoms, and should be considered. | •When applying thread embedding as a complex treatment for menopausal symptoms and postmenopausal syndrome, thread embedding once a week at BL23, LR3, EX-CA1, and PC6 acupoints may be considered.•When applying electroacupuncture as a complex treatment for menopausal symptoms and postmenopausal syndrome, electric stimulation for 30 minutes at CV4-CV3, both ST36, and both SP6 acupoints may be considered. |
| Stroke [243] | I60 | I61I62I63I64I65I66I67I68I69U23.4 | C | Low | Add-on | R90 | BVP may be considered to improve motor disability in patients with stroke sequelae. | •The following method may be considered for BVP treatment of motor disability in patients with post-stroke shoulder pain.•Total 12 sessions of pharmacopuncture treatment over 4 weeks, approximately 0.05-0.1 cc administered per point•Acupoints: LI15, TE14, GB21, SI10, LI11, SI3, Ex-UE70, Ashi points\* However, for safe treatment, sufficient explanation and informed consent should be obtained regarding expected adverse events before the procedure, skin reaction tests, monitoring for at least 30 minutes after the procedure, and education on symptoms and treatment of immediate/delayed hypersensitivity should be conducted, and in-hospital emergency first aid and medical care systems should be equipped. |
| C | Low | Add-on | R91 | BVP may be considered to improve shoulder pain in patients with stroke sequelae. | •The following method may be considered for BVP treatment of pain relief in patients with post-stroke shoulder pain.•Total 3 sessions of pharmacopuncture treatment over 2-4 weeks, approximately 0.05-0.2 cc administered per point•Acupoints: LI15, TE14, GB21, SI10, LI11, SI3, SI9, SI11, Ex-UE70, Ashi points\* However, for safe treatment, sufficient explanation and informed consent should be obtained regarding expected adverse events before the procedure, skin reaction tests, monitoring for at least 30 minutes after the procedure, and education on symptoms and treatment of immediate/delayed hypersensitivity should be conducted, and in-hospital emergency first aid and medical care systems should be equipped. |
| C | Very Low | Add-on | R92 | BVP may be considered to improve spasticity in patients with stroke sequelae. | •The following method may be considered for BVP treatment of spasticity in patients with post-stroke shoulder pain.•Total 12 sessions of pharmacopuncture treatment over 4 weeks, approximately 0.05-0.1 cc administered per point•Acupoints: LI15, TE14, GB21, SI10, LI11, SI3, Ex-UE70, Ashi points\* However, for safe treatment, sufficient explanation and informed consent should be obtained regarding expected adverse events before the procedure, skin reaction tests, monitoring for at least 30 minutes after the procedure, and education on symptoms and treatment of immediate/delayed hypersensitivity should be conducted, and in-hospital emergency first aid and medical care systems should be equipped. |
| Chronic fatigue [244] | R53R54 | G93.3G47M79.7M62F32T73.3Z73.0P96.9U60.0U68.1U22.1 | B | Moderate | 　 | R10 | Pharmacopuncture should be considered for improving symptoms in patients with chronic fatigue syndrome/idiopathic chronic fatigue.  | •Pattern differentiation should be performed before deciding the pharmacopuncture prescription.•Astragali Radix pharmacopuncture may be considered primarily for patients with pattern differentiation of Qi deficiency (氣虛), and Qi and Blood deficiency (氣血兩虛).•Acupoints such as BL13, BL18, BL20, and BL23 of the Bladder meridian should be primarily considered.•In cases of Qi deficiency (氣虛) and Qi and Blood deficiency (氣血兩虛), to objectify the pattern differentiation, Pattern Differentiation Survey for Qi, Blood, Yin-Yang deficiency (氣血陰陽虛損), and Pattern Differentiation Survey for Bojungikki-tang (補中益氣湯) may be applied.•If the tongue is red (紅舌) in inspection of the tongue (舌診), pharmacopuncture prescriptions other than Astragali Radix pharmacopuncture may be considered.•Duration of pharmacopuncture treatment is 4 weeks, and should be reassessed after 4 weeks to determine whether to continue treatment. |
| B | Moderate | Alone (for global symptom severity) | R10-1 | Pharmacopuncture should be considered for improving global symptom severity in patients with chronic fatigue syndrome/idiopathic chronic fatigue. | 　 |
| C | Low | Alone (for fatigue) | R10-2 | Pharmacopuncture may be considered for relieving fatigue in patients with chronic fatigue syndrome/idiopathic chronic fatigue. | 　 |
| C | Low |  | R11 | Additional thread embedding combined with other Korean medicine treatments or symptomatic drug treatment may be considered over other Korean medicine treatments or symptomatic drug treatment alone in patients to improve the main symptoms of chronic fatigue syndrome/idiopathic chronic fatigue. | •Thread embedding should be used combined with acupuncture or moxibustion treatment rather than alone.•For thread embedding, Baesu points of the five Jang Organs are mainly selected as acupoints.•Duration of thread embedding treatment is at least 3 weeks.•Careful attention should be paid to prevent infection around the administration area during thread embedding. |
| C | Low | Add-on/Integrative (for global symptom severity) | R11-1 | Additional thread embedding combined with Korean medicine treatments (acupuncture/moxibustion)/symptomatic drug treatment (anti-inflammatory analgesics/antiviral drugs/sleep inducing agents) may be considered over Korean medicine treatments or symptomatic drug treatment alone in patients to improve the main symptoms of chronic fatigue syndrome/idiopathic chronic fatigue. |  |
| Autism spectrum disorder [245] | F84.0F84.1 | F84.3F84.4F84.5F84.8F84.9 | C | Low | Add-on | R9 | The combination of herbal medicine, meridian point acupuncture, pharmacopuncture and behavioral/educational treatment may be considered to improve symptoms of patients with autism. | •The clinical considerations of herbal medicine and acupuncture should be followed.•Pharmacopuncture can be performed on general acupuncture points. |
| C | Low | Add-on | R15 | Thread embedding combined with behavioral/educational treatment may be considered in pediatric patients to improve symptoms of autism. | •Not using thread embedding should be considered if the child is apprehensive of thread embedding. |
| C | Low | Add-on | R21 | The combination of manual acupuncture, thread embedding, auricular acupressure and behavioral/educational treatment may be considered in pediatric patients to improve symptoms of autism. |  |
| Cold hypersensitivity in hands and feet [246] | I73.0I73.8 | R55.8U57U23.8U24.2U50.3U50.0 | B | Low |  | R7 | Pharmacopuncture treatment should be considered to improve symptoms in adults with cold hypersensitivity in hands and feet. | •Acupoints such as LI4, TE5, LI11, TE4, and EX-UE9 when the lesion is in the hands, and LR3, ST36, EX-LE10, SP9, ST41, and GB41 when the lesion is in the feet should be considered.•HPP and Onsongouhyul pharmacopuncture could be considered. |
| Functional dyspepsia [247]  | K30 | 　 | B | Low | Add-on | R16 | Korean medicine add-on treatment (e.g., herbal medicine, acupuncture, moxibustion, pharmacopuncture, and plaster therapy) should be considered to improve symptoms in adults with functional dyspepsia. | 　 |
| Knee osteoarthritis [248]  | M17M23 | M22M05M06S82.0S83 | B | Low | Alone | R15 | Compared to sham pharmacopuncture, Chinemys reevesii Gray pharmacopuncture showed significant functional improvement and effects in patients with knee osteoarthritis. Pharmacopuncture should therefore be considered for patients with knee osteoarthritis. | Acupoints such as EX-LE4, ST35, SP10, ST34, GB34, SP9, ST36 and Ashi points may be considered for pharmacopuncture treatment. |
| C | Low | Alone | R16 | Compared to usual conventional care, pharmacopuncture showed significant treatment effects in patients with knee osteoarthritis. Pharmacopuncture may therefore be considered for patients with knee osteoarthritis. |  |
| B | Low | Alone | R17 | Compared to sham pharmacopuncture, BVP showed significant pain relief and functional improvement in patients with knee osteoarthritis. BVP should therefore be considered for patients with knee osteoarthritis. | A hypersensitivity skin test must be performed prior to BVP administration, and the frequency and dose should be carefully determined. |
| C | Very Low | Integrative | R18 | Pharmacopuncture combined with usual conventional care may be considered for pain relief and functional improvement for patients with knee osteoarthritis. | 　 |
| B | Low | Add-on | R19 | Pharmacopuncture combined with other Korean medicine care should be considered for pain relief and effects for patients with knee osteoarthritis. | Pharmacopuncture may additionally be considered for patients showing frequent relapse or slow recovery. |
| - | - | Integrative | - | - | Although there is insufficient evidence-based medical data on thread embedding combined with usual (conventional) treatment in degenerative knee arthritis patients, it is thought that its use will increase in clinical practice, and based on the experience of the development group, thread embedding combined with usual (conventional) treatment may be attempted in clinical practice. |
| - | - | Add-on | - | - | Although there is insufficient evidence-based medical data on thread embedding combined with other Korean medicine treatments in degenerative knee arthritis patients, it is thought that its use will increase in clinical practice, and based on the experience of the development group, additional thread embedding combined with other Korean medicine treatments may be attempted in clinical practice. Regarding acupoints, EX-LE2, EX-LE4, ST35, GB33, LR8, GB34, SP9, ST36, SP10, BL40, and Ashi points can be considered for thread embedding. As thread embedding is a procedure where the thread remains in the body for a prolonged time, caution during the procedure (disinfection and sterilization) and post-treatment management are required to prevent side effects such as infection. |
| Breast cancer [249] | R53R52 | R11R23.2F41.1F41.9F39F32G47I97.2I89.0 | C | Very Low | 　 | R6 | Pharmacopuncture may be considered to improve pain symptoms for patients with breast cancer. | •Cases of breast cancer pain should be managed according to National Comprehensive Cancer Network guidelines. Acupuncture may additionally be considered in cancer pain sites.•BVP may be considered with Ashi points (阿是穴) and nerves related to the pain area in breast cancer pain.•Bogmo points (腹募穴), Baesu points (背兪穴) and Ashi points (阿是穴) may be considered in cancer pain.•BVP at EX-LE10, and EX-UE9 may be considered in pain caused by peripheral neuropathy during chemotherapy. |
| Lumbar disc herniation [250]  | M51 | 　 | B | Moderate | Add-on | R10 | Pharmacopuncture combined with usual care should be considered for overall symptoms of lumbar intervertebral disc herniation in adults. | •Pharmacopuncture combined with acupuncture, Chuna or integrative Korean medicine treatment may be considered to improve effectiveness.•BVP may be considered for lumbar intervertebral disc herniation, and the dose and concentration should be increased gradually after confirming negative adverse reaction response.•EX-B2, Governor Vessel (GV) acupoints, and Ashi points may be considered for pharmacopuncture. |
| B | Moderate | Alone | R13 | Thread embedding should be considered in adults to improve overall symptoms of lumbar disc herniation. | •EX-B2, acupoints of Governor Vessel and Bladder meridian, and Ashi points of the lumbar region may be primarily considered, and acupoints of Bladder and Gallbladder meridians of the hip and legs may be considered depending on radiating pain region.•In repeated treatment of thread embedding for lumbar disc herniation, an interval of 1-2 weeks between treatments can be considered. |
| B | Moderate | Add-on | R14 | Thread embedding combined with usual care should be considered in adults to improve overall symptoms of lumbar disc herniation. | Thread embedding combined with electroacupuncture at the same or similar acupoints may be used to improve effectiveness. |
| Facial palsy [251] | G510 | 　 | C | Low | Alone | R19 | BVP may be considered over general acupuncture for facial palsy patients with delayed treatment response. | 　 |
| C | Very Low | Add-on | R20 | General Korean medicine treatments with BVP may be considered over general Korean medicine treatments alone for patients with idiopathic facial palsy. | •BVP shall be used based on the professional knowledge of Korean medicine doctors.•A hypersensitivity skin test must be performed prior to administration of BVP.•It is imperative to have professional knowledge and active countermeasures against hypersensitivity reactions and anaphylaxis when using BVP clinically.•Acupoints such as GB14, SI18, LI20, ST4, ST6, and TE17 can be considered for BVP. |
| C | Low | Add-on | R21 | General Korean medicine treatments with HPP may be considered over general Korean medicine treatments alone for patients with idiopathic facial palsy. | 　 |
| B | Low | Add-on | R22 | General Korean medicine treatments along with pharmacopuncture may be considered over general Korean medicine treatments alone for idiopathic facial palsy patients with post-auricular pain. | 　 |
| C | Low | Add-on | R23 | General Korean medicinal treatments\* combined with thread embedding may be considered in patients to improve facial palsy symptoms of idiopathic facial palsy over general Korean medicinal treatments\* alone. | Patients should be able to decide whether to receive thread embedding through prior explanation as it can incur post-treatment pain, discomfort caused by edema, bruising, and feeling of irritation caused by foreign matter. |
| B | Moderate | Add-on | R24 | When 3+ months after onset of facial palsy have passed and general treatment does not show clear improvement, general Korean medicine treatments\* combined with thread embedding may be considered over general Korean medicine treatments\* alone. |  |
| Nonspecific chronic low back pain [252] | M545M5456 | M5459 | B | Moderate | Alone | R13 | BVP should be considered to improve pain and function in adults with chronic nonspecific low back pain. | •A hypersensitivity skin test must be performed prior to BVP administration.•Comparison of the effects of BVP with sweet BVP revealed that BVP should be considered first for functional improvement and pain, and sweet BVP may be considered first for reducing pruritus.•The following can be considered when using BVP to improve pain and function for adults with nonspecific chronic low back pain.1. Acupoints: First, consider acupoints of the Governor Vessel, Bladder, and Gallbladder meridians. Typical acupoints include BL23, BL24, BL25, GB30, GV3, GV4, and GV5.2. Needling depth: 0.5-1.0 cm3. Treatment frequency: Twice/wk4. Bee venom concentration: 20,000:15. Bee venom dose: After performing a hypersensitivity skin test with a single dose of 0.2 cc, an increase of 0.1-0.2 cc can be considered at each treatment session based on response (Maximum dose: 0.8-1.2 cc). |
| B | Moderate | Alone | R14 | Thread embedding (Maeseon) should be considered to improve pain and function in adults with chronic nonspecific low back pain. |  |
| B | Moderate | Add-on | R15 | Thread embedding (Maeseon) combined with other Korean medicine treatments should be considered to improve pain and function in adults with chronic nonspecific low back pain. | To improve pain and function in chronic nonspecific low back pain in adults, muscles such as quadratus lumborum, erector spinae, multifidi can be considered as treatment targets in thread embedding.1. Quadratus lumborum: Transverse insertion to 4cm depth from both L4 spinous processes towards the left and right iliac crests. The thread should be inserted in the superficial muscle layers.2. Erector spinae: Transverse insertion at points located 3–4cm from the L3 and S1 spinous processes towards L1. The thread should be inserted in the superficial muscle layers.3. Multifidi: Perpendicular insertion to 4cm depth at both EX-B2 points between L4–5 and L5-S1. |
| Neck pain [253] | M542M501 | M508M509S134U303 | A | Moderate | Alone | R16 | Pharmacopuncture was shown to significantly relieve neck pain in adults compared to usual care. Pharmacopuncture is therefore recommended for symptom alleviation in patients with neck pain. | Acupoints such as GB20, GB21, BL11, Hyeopcheok (EX-B2), and Ashi points may be considered.  |
| B | Low | Alone | R17 | Pharmacopuncture was shown to significantly relieve neck pain in adults compared to acupuncture. Pharmacopuncture should therefore be considered for symptom alleviation in patients with neck pain. | Pharmacopuncture may be considered for chronic neck pain patients, particularly for patients with severe pain, patients showing frequent recurrence, or patients unable to visit frequently. |
| B | Low | Integrative | R18 | Concurrent treatment with pharmacopuncture and usual care was shown to significantly relieve pain and improve quality of life compared to usual care alone for adults with neck pain. Integrative treatment with pharmacopuncture should therefore be considered for symptom alleviation in adults with neck pain receiving usual care. | 　 |
| B | Low | Add-on | R19 | Concurrent treatment with pharmacopuncture and acupuncture was shown to significantly relieve pain compared to acupuncture alone for adults with neck pain. Concurrent treatment with pharmacopuncture treatment should therefore be considered for symptom alleviation in adults with neck pain receiving acupuncture.  | 　 |
| B | Moderate | Add-on | R20 | Concurrent treatment with BVP and acupuncture was shown to significantly relieve pain and improve function for adults with neck pain. Concurrent treatment with BVP should therefore be considered for symptom alleviation in adults with neck pain receiving acupuncture. | A hypersensitivity skin test must be performed prior to BVP administration, and concurrent treatment with BVP may be administered only if the results are negative. In addition, careful judgement regarding frequency and dose is required. |
| C | Low |  | R25 | Compared to nonactive controls, thread embedding (maeseon) was shown to significantly relieve pain for neck pain in adults. Thread embedding (Maeseon) may therefore be considered for symptom improvement in clinical treatment of neck pain patients. | Education and careful attention regarding disinfection is required for safe administration in thread embedding (maeseon). |
| Hwabyung [254] | U22.2 | 　 | C | Very Low | Alone | R3 | Pharmacopuncture may be considered to improve physical symptoms in patients with Hwabyung. | •Pharmacopuncture at CV17 and GB21 may be considered to improve physical symptoms in Hwabyung patients.•Pharmacopuncture solutions appropriate for improving symptoms in Hwabyung patients include MOK, HPP, and Regulating Ascending Kidney Water and Descending Heart Fire (水升火降) pharmacopuncture. (Inject 0.1 cc of Hwangryunhaedok-tang pharmacopuncture at GB21 and GB20, and 0.05 cc of Fel Ursi pharmacopuncture at CV17, CV12, and CV6). |
| Temporomandibular joint disorder [255] | S03.0S03.4 | K07.6K07.8K07.9R51G44.8 | A | Moderate | Alone | R5 | Pharmacopuncture showed significant improvement in pain and quality of life compared to usual conservative treatment in adults with temporomandibular joint disorder.Consideration of pharmacopuncture treatment is therefore recommended for improvement of symptoms in patients with temporomandibular joint disorder. | Acupoints such as ST7, ST6, TE21, and TE17 may be considered for pharmacopuncture treatment of temporomandibular joint disorder. Regarding pharmacopuncture types, HPP and BVP may be used. A hypersensitivity skin test must be performed prior to BVP administration, and the frequency and dose need to be decided carefully. |
| - | - | Alone | - | - | Thread embedding may be considered for treatment of temporomandibular joint disorder in adults.However, careful attention regarding disinfection and sterilization is required for safe administration in thread embedding. |
| Dizziness [256] | R42 | 　 | B | Moderate | Add-on (for dizziness) | R (I-C-1) | Collaborative treatment with herbal medicine and pharmacopuncture should be considered over herbal medicine alone for patients with vertigo. | •Combined administration of extract of Salviae miltiorrhizae Radix and Dalbergiae odoriferae Lignum pharmacopuncture should be considered. |
| C | Low | Add-on (for cervical vertigo) | R (IIIa-A-13) | Integrative treatment of thread embedding and herbal medicine may be considered over herbal medicine alone for symptom improvement in patients with cervical vertigo. |  |
| B | Moderate | Add-on (for cervical vertigo) | R (IIIa-C-1) | Combined treatment with pharmacopuncture, electrical stimulation and traction should be considered over electrical stimulation and traction for patients with cervical vertigo. | •Combined administration of extract of Salviae miltiorrhizae Radix and Dalbergiae odoriferae Lignum pharmacopuncture should be considered. |
| C | Low | Integrative (for vasovagal syncope) | R (IIIb-C-1) | Collaborative treatment with pharmacopuncture and beta-blockers may be considered over beta-blocker treatment alone for patients with vasovagal syncope. | •Astragali Radix pharmacopuncture may be considered. |
| Cancer-related symptoms [257] | R52R53 | R63.0R64R11G47G90.0K11.7K56.7 | C | Low | Integrative | R9 | BVP combined with analgesics may be considered over analgesics alone to improve cancer-related pain. | Multidisciplinary diagnosis and a combination of treatments should be considered for cancer-related pain. There is a possibility of pain occurring as a direct cause of the tumor itself.A hypersensitivity skin test must be performed prior to BVP administration. Acupoints such as Ashi points, transport points (i.e., Baesu points or back points), ST36, and SP6 may be considered to manage cancer-related pain. The recommended treatment period and frequency is 2-4 wks of therapy, 2-3 times/wk. |
| Traffic injuries [258] | S0000T009 | S1084S200S300S400S500S600S700S800S900T112T903 | C | Very Low | Alone | R4-1 | Pharmacopuncture according to syndrome differentiation may be considered to symptom alleviation of neck pain and low back pain over acupuncture alone in adult WAD Ⅰ, Ⅱ patients.  | •In pharmacopuncture treatment, BVP or pharmacopuncture types for promotion of Blood flow to eliminate Blood stasis (活血化瘀), anti-inflammation and pain relief, and muscle relaxation may be considered.•A hypersensitivity skin test must be performed prior to BVP administration. Careful judgement regarding dose is required. |
| B | Moderate | Add-on | R4-2 | Pharmacopuncture combined with usual care (KMT) according to syndrome differentiation should be considered for symptom improvement over acupuncture treatment alone in adult WAD Ⅰ, Ⅱ patients with neck pain. | •Acupoints such as GV16, GB20, GB21, GV14, and Baesu points or back points, Ex-B2 and Ashi points may be considered for neck pain treatment. |
| C | Very Low | Add-on | R4-3 | Pharmacopuncture combined with usual care (KMT) according to syndrome differentiation may be considered for symptom improvement in adult WAD Ⅰ, Ⅱ patients with low back pain. | •Acupoints such as BL23, BL25, BL26, GV3, GB30, Ex-B2, and Ashi points may be considered for low back pain treatment. |
| C | Very Low | Add-on | R12-1 | Chuna manual therapy combined with pharmacopuncture may be considered for symptom improvement of neck pain and low back pain over Chuna manual therapy or pharmacopuncture alone in adult WAD Ⅰ, Ⅱ patients. | 　 |
| C | Low | Add-on | R12-2 | Pharmacopuncture combined with usual care (KMT, including Chuna manual therapy) may be considered for symptom improvement over usual care (KMT, including Chuna manual therapy) in adult WAD Ⅰ, Ⅱ patients with neck pain. | 　 |
| B | Moderate | Add-on | R12-3 | Chuna manual therapy combined with usual care (KMT, including pharmacopuncture) should be considered for symptom improvement over usual care (KMT, including pharmacopuncture) alone in adult WADⅠ, Ⅱ patients with neck pain. | 　 |
| Ankle sprain [259] | S9340S9341 | S9342S9348S9349 | C | Low | Add-on | R13 | Acupuncture combined with BVP may be considered to reduce pain in adults with acute ankle sprain. | •Acupoints such as GB39, GB40, GB41, BL60, BL62, and ST36 may be used for lateral sprain, and SP5, SP6, SP9, KI3, KI6, and LR4 may be used for medial sprain. The concentration and dose of BVP is 20,000:1-3,000:1, 0.05-0.1 cc per acupoint, and the dose can be increased if necessary.•A hypersensitivity skin test must be performed prior to BVP administration to confirm negative reaction.•The BVP treatment method should be at the discretion of the Korean medicine doctor. |
| C | Low | Add-on | R14 | Acupuncture combined with BVP may be considered to reduce pain and improve the range of motion in adults with chronic ankle sprain. | •Acupoints such as GB39, GB40, GB41, BL60, BL62, and ST36 may be used for lateral sprain, and SP5, SP6, SP9, KI3, KI6, and LR4 may be used for medial sprain. The concentration and dose of BVP is 20,000:1-3,000:1, 0.05-0.1 cc per acupoint, and the dose can be increased if necessary.•A skin test must be performed prior to BVP administration to confirm negative hypersensitivity reaction.•The BVP treatment method should be at the discretion of the Korean medicine doctor. |
| Shoulder pain [260] | M750M751 | M752M753M754M755M7911S434 | C | Low |  | R17 | Thread embedding may be considered to improve quality of life associated with SF-36 in adults with shoulder pain. | Education and careful attention regarding disinfection is required for safe administration in thread embedding. |
| B | Moderate |  | R18 | BVP should be considered for adults with shoulder pain.  | A skin test must be performed prior to BVP administration to avoid treatment in the case of a positive hypersensitivity reaction. |
| C | Low |  | R19 | Pharmacopuncture including Scolopendrid, and Juglandis Semen pharmacopuncture may be considered for adults with shoulder pain patients presenting with a main complaint of pain. | 　 |
| Obesity [261] | E66 | 　 | B | Low |  | 　 | Pharmacopuncture should be considered in the treatment of obesity as it shows significant effects on body weight and waist circumference. | 　 |

BMD: bone mineral density; BVP: bee venom pharmacopuncture; CF: Carthami Flos; CPG: clinical practice guideline; CTB: classical text-based; GPP: good practice point; HPP: Hominis Placenta pharmacopuncture; IBS: irritable bowel syndrome; ICD: International Statistical Classification of Diseases and Related Health Problems; KMT: Korean medicine treatment; MOK: Hominis Placenta, Calculus Bovis, Fel Ursi, and Moschus; NSAID: non-steroidal anti-inflammatory drug; SF-36: short form-36 health survey; WAD: whiplash associated disorders

\*General Korean medicine treatments: This recommendation defines general Korean medicine treatments as treatments such as acupuncture, electroacupuncture, herbal medicine, and physical therapy.