Low Back Pain

Philippine Academy of Rehabilitation Medicine

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PHILIPPINE ACADEMY OF REHABILITATION MEDICINE (PARM) RECOMMENDATIONS FOR THE EVALUATION & DIAGNOSIS OF LOW BACK PAIN

Clinical Care Pathway (Algorithm) in Low Back Pain Management)
Introduction

Low back pain (LBP) remains one of the most common adult musculoskeletal conditions seen in a Rehabilitation Medicine Specialist’s (Physiatrist) clinic. Apart from its frequency, the influence of LBP on afflicted individuals’ functional activities presents a great amount of concern. It is believed to be the most common cause of decreased productivity among the working population. The persistent and/or recurrent nature of LBP carries with it the propensity to incur high costs of treatment, notwithstanding the need for immediate relief from pain and discomfort, to improve function and prevent disability. Given the presently struggling economic state of the Philippines, it is vital to properly manage the growing population of LBP patients, if only to prevent labor cost wastage on the part of employers and lost wages among workers. It is important for clinicians to remember that early return to work with sustained and significantly improved primary outcomes results from prompt skilled medical care and rational intervention.

Objectives

This guideline was formulated in order to:
1. Identify appropriate clinical and diagnostic approaches to the evaluation of low back pain;
2. Determine rational pharmacologic and non-pharmacologic treatment strategies for low back pain based on current evidence, aimed at improving primary outcomes and reducing disability, and
3. Establish criteria for referral to other specialists as necessary for further management and focused care.

Recommendation Development

The task force searched the following electronic databases for existing international clinical practice guidelines (CPGs) published 2007 onwards: PubMed, Google Scholar, National Institute for Health and Clinical Excellence (NICE), Scottish Intercollegiate Guidelines Network (SIGN), National Health and Medical Research Center (NHMRC), New Zealand Guidelines Group (NZGG), and National Guidelines Clearinghouse (NGC). Relevant data from the methodologically-sound guidelines included were extracted. Contextualization process was used to ensure that high-quality recommendations could be readily adapted by Filipino healthcare providers. Recommendations were put into local contexts to demonstrate their relevance. This process filled the gap between the expected (evidence-based) practice and “usual” Filipino practice, by providing endorsements that should assist Filipino health-care providers to understand the currently-available best evidence, and apply these in the best way possible, using local resources in their local environment.

**PARM Guide for Summarizing Underpinning Evidence**

**Strengths of Included Recommendations**

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Strength of the body of evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. There is strong evidence</td>
<td>Consistent grades of high quality evidence with uniform thought, and at least a moderate volume of references to support the recommendation(s)</td>
</tr>
<tr>
<td>2. There is evidence</td>
<td>A mix of moderate and high quality evidence with uniform thought and at least a low volume of references OR A mix of high and low quality evidence with uniform thought, and high volume of references OR High level evidence coupled with GPPs, and at least moderate volume of references OR One Level I paper with at least moderate volume references</td>
</tr>
<tr>
<td>3. There is some evidence</td>
<td>Single level II (A) paper OR Inconsistent grades of high and low evidence with uniform thought and moderate volume references OR Consistent grades of low level evidence with uniform thought and at least a moderate volume of references</td>
</tr>
<tr>
<td>4. There is conflicting evidence</td>
<td>A mix of levels of evidence with non-uniform thought, irrespective of the volume of references with or without GPPs</td>
</tr>
<tr>
<td>5. There is insufficient evidence</td>
<td>Low or inconsistent levels of evidence with low volume references with or without GPPs</td>
</tr>
<tr>
<td>6. There is no evidence</td>
<td>Absence of evidence for any aspect of the patient journey</td>
</tr>
</tbody>
</table>

**PARM Guide for Stating Recommendations**

1. **PARM strongly endorses** When there is strong evidence as determined by the criteria in the table above
2. **PARM endorses** When there is evidence as determined by the criteria in the table above
3. **PARM recommends** When there is some evidence as determined by the criteria in the table above
4. **PARM suggests** When there is insufficient or conflicting evidence as determined by the criteria in the table above
5. **PARM does not endorse** There is no evidence as determined by the criteria in the table above

*PARM determined uniform wording with which to endorse recommendations based on the level of evidence. These descriptions ranged from clear statements about efficacy for those with strong evidence (PARM strongly endorses) to those with conflicting evidence of efficacy (PARM suggests).
1. EVALUATION AND DIAGNOSIS OF LOW BACK PAIN

Low back pain (acute and chronic) is a prevalent condition in most Western and developing countries. Most people will be affected by back pain at some time in their lives. It is a particular challenge because it is so common, demanding of medical resources, and a major cause of physical, psychological and social disability. Most often, low back pain is benign and self-limiting. A complete and focused medical history and physical examination is important in the evaluation of low back pain to determine the cause of the symptoms. Patient’s responses and findings may raise suspicion of serious underlying condition. In the absence of signs of dangerous conditions, there is no need for special studies since most of patients will recover spontaneously. Imaging of the lumbar spine and other diagnostic exams should be used in the evaluation of low back pain if specific pathology needs to be confirmed after a thorough history and physical examination.

1.1. Medical History
- PARM strongly endorses performing a full patient evaluation (e.g., history-taking, physical and neurologic examination, functional status and psychosocial risk factor assessment) and conducting diagnostic triage is important in the evaluation and diagnosis of low back pain.
- PARM strongly endorses performing a comprehensive re-evaluation with general assessment in low back pain patients not improving after four to six weeks.
- PARM endorses identifying yellow flag signs or psychosocial risk factors to better manage low back pain patients.
- PARM suggests immediate evaluation and treatment of low back pain patients presenting with red flag signs indicating a serious pathology.

1.2. Physical Examination
1.2.1. Non-specific low back pain
1.2.1.1. PARM strongly endorses performing a full physical and neurologic examination, functional status and psychosocial risk factor assessment for patients with low back pain.

1.2.2. Low back pain with radiculopathy
- PARM recommends considering congruence of signs and symptoms to symptoms increase sensitivity and specificity of the neurological exam of a patient with low back pain.
- PARM recommends the following in low back pain patients with probable radiculopathy secondary to disc herniation:
  a. doing the SLR test and crossed leg SLR test;
  b. mapping pain distribution;
  c. not to rule out radiculopathy in elderly patients with normal SLR test, and
d. immediate referral for surgical evaluation of low back pain patients with stepping gait or “foot drop.”
- PARM suggests the following in low back pain patients with probable radiculopathy secondary to disc herniation:
  a. doing the slump test to patients with severe clinical presentation of acute or sub-acute low back pain;
  b. performing the “provocative active side bend” assessment, either alone or as part of a flexion-extension-rotation assessment;
  c. performing one or more of the neural tension tests (e.g., straight leg raise, slump, prone knee bend, femoral stretch) bilaterally;
  d. checking for leg or below the knee pain, and
e. performing Wasserman test, SLR test, patellar and Achilles tendon reflex test, foot sensibility (e.g., knee extension, foot dorsiflexion and plantarflexion, toe dorsiflexion) and foot (e.g., medial, lateral and back) sensibility.

1.3. Diagnosis
1.3.1. Non-specific low back pain
- PARM strongly endorses against the use of diagnostic imaging tests such as radiographs, CT and MRI in evaluating acute non-traumatic and non-specific cases of low back pain.
- PARM recommends to acute or chronic low back pain patients who are not improving, to have an x-ray of the lumbar spine (AP and lateral views, without oblique views) prior to a CT or MRI.
- PARM recommends when a diagnostic test is indicated in low back pain, with or without radiculopathy an MRI is preferred. However, CT scan is an alternative when MRI is contraindicated.
- PARM recommends neurophysiological expert evaluation when etiological or level diagnosis are uncertain, prognostic information is required, or to monitor/document low back pain objectively.
- PARM does not recommend ordering for CT scan and MRI in the first 4-6 weeks unless there is highly-painful sciatica or progressive motor deficit.
- PARM does not recommend EMG exam in the first four weeks of low back pain, since it does not predict radicular pain.

1.3.2. Low back pain with radiculopathy
- PARM strongly endorses that after 4 – 6 weeks of low back pain, CT scan or MRI are recommended if surgery is considered and/or severe or progressive neurologic signs and symptoms are present.
- PARM recommends when a diagnostic test is indicated in low back pain, with or without radiculopathy an MRI is preferred. However, CT scan is an alternative when MRI is contraindicated.
- PARM recommends neurophysiological expert evaluation when etiological or level diagnosis are uncertain, prognostic information is required, or to monitor/document low back pain objectively.
- PARM does not recommend ordering for CT scan and MRI in the first 4-6 weeks unless there is highly-painful sciatica or progressive motor deficit.
- PARM does not recommend EMG exam in the first four weeks of low back pain, since it does not predict radicular pain.

1.3.3. Low back pain due to other specific conditions
- PARM recommends ordering x-rays in patients with low back pain after lumbar blunt trauma or acute injuries (fall, motor-vehicle accidents, motorcycle, pedestrian, cyclists, etc.) to assist in diagnosis.
- PARM recommends x-ray of the whole spine (in standing) in patients with spondylosis.
- PARM recommends CT scan or MRI in patients with spinal stenosis.
- PARM suggests ordering standing standard and dynamic x-ray in cases of
2. Management of Acute Low Back Pain

2.1. Non-specific acute low back pain

2.1.1. Pharmacological management

- PARM strongly endorses the use of paracetamol as first line drug in the treatment of acute non-specific low back pain.
- PARM strongly endorses the use of NSAIDs as second drug if paracetamol is not sufficient in the treatment of acute non-specific low back pain.
- PARM strongly endorses the use of muscle relaxants in the treatment of acute non-specific low back pain, particularly for muscle spasm and should not be recommended routinely due to its adverse effects.
- PARM strongly endorses the use of non-benzodiazepines over benzodiazepine in the treatment of acute non-specific low back.
- PARM endorses the use of opioid or compound analgesic for severe acute non-specific low back pain.
- PARM recommends to preferentially prescribe weak opioids or NSAIDs for people with acute non-specific low back pain who obtain insufficient benefit from paracetamol or NSAIDs.
- PARM recommends that either opioids or non-opioids may be used in the treatment of acute low back pain. However, opioids are not superior to non-opioids in its efficacy.
- PARM suggests the combination of muscle relaxant and NSAIDs or analgesic in the treatment of acute non-specific low back pain if paracetamol or NSAIDs alone have failed to reduce pain.
- PARM suggests the use of antidepressants for the treatment of acute non-specific low back pain.
- PARM suggests that non-opioids are as efficacious as NSAIDs for pain relief in patients with acute non-specific low back pain.
- PARM does not suggest the use of oral nor systemic steroids for the treatment of acute non-specific low back pain.

2.1.2. Physical activity, Therapeutic Exercise with Related interventions, Education and Advice

- PARM strongly endorses that patients with acute non-specific low back pain remain physically active and to avoid bed rest. If the patient must rest, it must be limited to no more than two days.
- There is strong evidence against prescribing any specific exercise program over another in managing acute non-specific low back pain.
- PARM suggests therapeutic exercise as a treatment option in acute non-specific low back pain.
- PARM suggests back school (i.e., control posture, reduce stress, and modify work activity) in patients with acute non-specific low back pain. PARM suggests McKenzie approach as a possible exercise option for acute non-specific low back pain.

2.1.3. Physical agents, Modalities, Traction & Lumbar supports

- PARM strongly endorses against the use of continuous traction in acute non-specific low back pain.
- PARM recommends the use of Interferential therapy and Laser therapy as treatment options in the treatment of acute non-specific low back pain.
- PARM recommends against the use of TENS in patients with acute non-specific low back pain.
- PARM suggests the use of heat, cold, shortwave diathermy, Ultrasound and lumbar supports in the treatment of acute non-specific low back pain.

2.1.4. Other non-invasive procedures

- PARM endorses spinal manipulation as possible treatment option in patients with acute non-specific low back pain.
- PARM suggests massage and spinal mobilization as possible treatment options for acute non-specific low back pain.

2.1.5. Invasive management

- PARM suggests epidural spinal injection and acupuncture as treatment options in acute non-specific low back pain.

2.2. Acute low back pain with radiculopathy

2.2.1. Pharmacological management

- PARM recommends the use of paracetamol, and muscle relaxants as treatment options in reducing pain for acute low back pain with radiculopathy.
- PARM recommends the use of paracetamol with light opioid as an effective alternative when NSAIDs or paracetamol alone do not control pain.
- PARM recommends the use of anti-epileptic drugs in the treatment of acute low back pain with radiculopathy.
- PARM suggests NSAID and short-term use of systemic corticosteroid in the treatment of acute low back pain with radiculopathy.

2.2.2. Physical activity, Therapeutic exercise with Related interventions, Education and Advice

- PARM recommends acute low back pain patients with radiculopathy to avoid bed rest (except for 2-4 days in severe cases), to remain physically active within limits of pain, and to return early to work accompanied by activity modifications.

2.2.3. Physical agents, Modalities, Traction and Lumbar supports

- PARM suggests the use of ultrasound in the treatment of acute low back pain with sciatica.
- PARM does not recommend the use of heat, TENS nor continuous traction in the treatment of acute low back pain with radiculopathy.

2.2.4. Other non-invasive procedures

- PARM does not recommend massage in the management of acute low back pain with radiculopathy.
• PARM suggests spinal manipulation in the treatment of acute low back with radiculopathy.

2.2.5. Invasive management
• PARM recommends acupuncture and epidural spinal injection as treatment options for acute low back pain with radiculopathy.

2.3. Acute Low Back Pain due to other specific conditions
2.3.1. Physical agents, Modalities, Traction and lumbar supports
• PARM suggests lumbar supports in the treatment of acute low back pain in patients with low back pain secondary to spinal stenosis and spinal instability.

3. Sub-acute Low Back Pain
3.1. Sub-acute non-specific low back pain
3.1.1. Pharmacological management
• PARM strongly endorses the use of paracetamol for the treatment of sub-acute non-specific low back pain. It is to be considered the first line drug not to exceed 3 g/day.
• PARM recommends that either opioids or non-opioids may be used in the treatment of sub-acute non-specific low back pain. However, opioids are not superior to non-opioids in its efficacy.
• PARM recommends muscle relaxants, tricyclic antidepressants, benzodiazepines and tramadol in the treatment of sub-acute non-specific low back pain.
• PARM suggests the use of anti-epileptic drugs in the treatment of sub-acute non-specific low back pain.
• PARM suggests back schools (i.e., control posture, reduce stress, and modify work activity) and Viniyoga in the management of sub-acute non-specific low back pain.

3.1.2. Physical activity, Therapeutic exercise with related interventions, Education & Advice
• PARM endorses against using continuous traction in treating patients with sub-acute non-specific low back pain.
• PARM recommends the use of Interferential Therapy, lumbar supports and laser therapy in the treatment of sub-acute nonspecific low back pain.
• PARM suggests the use of heat, cold, Shortwave diathermy, TENS and Ultrasound in the treatment of sub-acute nonspecific low back pain.

3.1.3. Other non-invasive procedures
• PARM endorses spinal manipulation as a possible treatment option for sub-acute non-specific low back pain.
• PARN suggests massage and spinal mobilization as possible treatment options for sub-acute non-specific low back pain.

3.1.4. Invasive management
• PARM recommends that facet joint steroid injection showed no improvement when used in sub-acute non-specific low back pain.
• PARM suggests patients with sub-acute non-specific low back pain should be advised acupuncture.
• PARM suggests that epidural spinal injection should not be used as treatment for patients with sub-acute non-specific low back pain.

3.2. Sub-acute low back pain with radiculopathy
3.2.1. Physical agents, Modalities, Traction & Lumbar supports
• PARM suggests the use of lumbar supports in the treatment of sub-acute low back pain secondary to spinal stenosis and instability of undetermined duration.
• PARM does not recommend the use of continuous traction in the management of sub-acute non-specific low back pain.

3.2.2. Invasive management
• PARM recommends that epidural spinal injection may be used as treatment for patients with sub-acute low back pain with radiculopathy.

4. Chronic Low Back Pain
4.1. Chronic non-specific low back pain
4.1.1. Pharmacological Management
• PARM strongly endorses the use of paracetamol and NSAIDs in the treatment of chronic non-specific low back pain.
• PARM recommends the use of muscle relaxants (i.e., cyclobenzaprine, non-benzodiazepine), benzodiazepines and tramadol in the treatment of chronic non-specific low back pain.
• PARM recommends the use of opioids (i.e., codeine, oxymorphone) only after an unsuccessful trial of non-opioid analgesic, for patients with chronic, non-specific low back pain.
• PARM suggests the use of anti-depressants and anti-epileptic drugs in the treatment of chronic non-specific low back pain.

4.1.2. Physical activity, Therapeutic exercise with related interventions, Education & Advice
• PARM strongly endorses that patients with chronic non-specific low back avoid bed rest and be managed with therapeutic exercises.
• PARM strongly endorses individualized or client-specific exercise programs in managing chronic non-specific low back pain.
• PARM strongly endorses against prescribing any specific exercise program over another in managing chronic non-specific low back pain.
• PARM recommends back schools (i.e., control posture, reduce stress, and modify work activity) in patients with chronic non-specific low back pain.
• PARM suggests McKenzie exercise approach and Viniyoga as possible management option for chronic non-specific low back pain.

4.1.3. Physical agents, Modalities, Traction and Lumbar supports
• PARM strongly endorses against using continuous traction as a unimodal treatment in the treatment of patients with chronic non-specific low back pain.
• PARM suggests the use of lumbar supports in the treatment of chronic low back pain.
• PARM recommends low-level laser and lumbar support in the treatment of chronic non-specific low back pain.
• PARM does not recommend the use of transcutaneous electrical stimulation and lumbar support as unimodal treatment in the treatment of chronic non-specific low back pain.
• PARM suggests use of therapeutic ultrasound and interventional therapy in the treatment of chronic non-specific low back pain.

4.1.4. Other non-invasive procedures
• PARM endorses lumbar mobilization, spinal manipulation and massage in the management of chronic non-specific low back pain.

4.1.5. Invasive management
• PARM endorses therapeutic acupuncture as beneficial in managing chronic non-specific low back pain.
• PARM suggests that prolotherapy and facet joint steroid injection as treatment options for chronic non-specific low back pain.
• PARM suggests that botulinum toxin injection, epidural spinal injection, trigger point injection & ligamentous injection do not provide benefit in patients with chronic non-specific low back pain.

4.1.6. Surgical management
• PARM recommends fusion spinal surgery for patients who have severe chronic non-specific low back pain.
• PARM does not recommend intradiscal electrothermal therapy (IDET) or percutaneous intradiscal radiofrequency thermocoagulation (PIRFT) to patients with chronic non-specific low back pain.
• PARM suggests radiofrequency facet joint denervation in chronic non-specific low back pain.

4.2. Chronic low back pain with radiculopathy
4.2.1. Physical agents, Modalities, Traction and Lumbar supports
• PARM does not recommend continuous lumbar traction as a unimodal treatment for chronic low back pain with radiculopathy.

4.2.2. Invasive management
• PARM recommends epidural spinal injection in managing chronic low back pain with radiculopathy.

4.2.3. Surgical management
• PARM recommends laminectomy with or without fusion compared to non-surgical treatment of patients with chronic low back pain due to spinal stenosis with or without degenerative spondylolisthesis.

4.3. Chronic low back pain due to other specific conditions
4.3.1. Physical agents, Modalities, Traction & Lumbar supports
• PARM suggests the use of lumbar supports in the treatment of chronic low back pain secondary to spinal stenosis and instability.
• PARM suggests the use of continuous traction in patients with chronic low back pain due to spinal stenosis.

4.3.2. Other non-invasive procedures
• PARM does not recommend spinal manipulation and spinal mobilization in chronic low back pain with spinal instability.
• PARM suggests mild massage and mild spinal manipulation in chronic low back pain with disc herniation.
• PARM does not suggest spinal manipulation and spinal mobilization for chronic low back pain associated with painful scoliosis.

4.3.3. Surgical management
• PARM recommends laminectomy, with or without fusion, in chronic low back pain due to spinal stenosis with or without degenerative spondylolisthesis.
• PARM recommends the use of interspinous spacer device as treatment for chronic low back pain due to disc herniation or spinal instability.
• PARM suggests lumbar fusion surgery for chronic low back pain secondary to common degenerative disc disorders.
• PARM recommends fusion surgery as treatment for chronic low back pain due to adult painful scoliosis with who also has one or more of the following: more than 50 degrees Cobb’s angle, progression of curve by more than 10 degrees, lateral listhesis (rotational instability), or an important trunk decompensation.
• PARM does not recommend immediate surgery for chronic low back pain with disc extrusion or sequestration, without a trial of conservative therapy, unaccompanied by severe or uncontrolled pain and/or profound or progressive neurologic symptoms.
• PARM suggests artificial disc replacement for chronic low back pain due to single-level degenerative disc disease.

4.4. Chronic low back pain due to Extrapulmonary Tuberculosis of the Spine
4.4.1. Pharmacologic Management
• In the presence of red flag signs and concomitant low back pain, infection of the spine should be ruled out (i.e., Extrapulmonary Tuberculosis of the Spine or Pott’s Disease).
• The treatment regimen as recommended by the National TB Program Manual of procedures, 2005, RP, DOH are as follows:
  a. Initial 2 months of Fixed-dose combination of Isoniazid, Ethambutol, Rifampicin, Pyrazinamide
  b. Next 10 months of Fixed-dose combination of Isoniazid, Rifampicin

4.4.2. Spinal Supports (Orthoses)
• PARM recommends for those with spinal instability, a prescription of spinal orthoses for 3-6 months; and to repeat x-rays before weaning.

4.4.3. Surgical Management
• PARM recommends for those with progressive neurologic deficit despite adequate medical treatment, to consider surgery.
Index of Drugs Mentioned in the Guideline

This index is not part of the guideline. It lists the products and/or their therapeutic classes as mentioned in the guideline. For the doctor's convenience, brands available in the PPD references are listed under each of the classes. For drug information, refer to the PPD references (PPD, PPD Pocket Version, PPD Text, PPD Tabs, and www.TheFilipinoDoctor.com).

### Opioid Analgesics
- Buprenorphine: Norspan
- Codeine
- Fentanyl: Durogesic D Trans, Hospira Fentanyl citrate
- Morphine sulfate: MST Continus
- Oxycodone: OxyContin, Oxynorm, Oxynorm Injection
- Oxycodone/Naloxone: Targin

### NSAIDs
- Diclofenac
  - Cataflam
  - Cataflam QS
  - Dicloval Inj 75 mg/
  - Dicloval Retard
  - Difenox
  - Doloflam
  - RiteMED Diclofenac
  - Voltaren
  - Zolterol
- Diclofenac/Vitamin B Complex
  - Neofenac
- Ibuprofen
  - Advil
  - Dolan FP
  - Faspic
  - Gofen-400
  - Ibuped
  - Medicol Advance
  - Midol
  - Mutrim
- Mefenamic Acid
  - Dolfenal
  - Gardan
  - Gisfen
  - Medianon
  - Mefenax
  - Pharex Mefenamic Acid
  - Ponser
  - Ponstan
  - RiteMED Mefenamic Acid

### Paracetamol
- Alaxan
- Alvedon
- Biogesic
- Calpol
- Cortalgesic Xtra
- Ifimol IV
- Kiddilets
- Naproxen: Norgesic/Norgesic Forte*
- Opigesic
- Panadol
- Retagesic
- Rexidol Forte*
- RiteMED Paracetamol
- Tamin
- Tempra/Tempra Forte

### Paracetamol/Ibuprofen
- Alaxan FR
- Cortal SQR
- Muskelax
- Paramax
- Paratol
- Realax
- Restolax
- Restolax Forte
- Selexan

### Paracetamol/Carisoprodol
- Lagaflex

### Paracetamol/Hyoscyne-N-butylibromide
- Buscopan Venus

### Paracetamol/Ibuprofen
- Paramax

### Paracetamol/Propyphenazone/
  - Caffeine
  - Saridon Triple Action

### Paracetamol/
  - Vitamin B-Complex
  - Dolo-Neurobion
  - Polynerv Forte

### Muscle Relaxants
- Baclofen
  - Lioresal
  - Onelaxant-R
  - Trilaxant
- Cyclobenzaprine
- Tizanidine

### Other Anti-convulsants
- Gabapentin
  - Aforpen
  - Calmpent
  - Epiven
  - Gabix
  - Neurontin
  - Reinin
  - Zycha

### Tricyclic Anti-depressants (TCAs)
- Clomipramine
  - Clofranil
  - Duloxetine
  - Cymbalta
  - Nortriptyline

### Anti-convulsants
- Benzodiazepines
  - Diazepam
  - Valium
- Lorazepam
  - Midazolam
  - Dormicum
  - Midazolox
  - Sedorx

### Other Anti-convulsants
- Gabapentin
  - Aforpen
  - Calmpent
  - Epiven
  - Gabix
  - Neurontin
  - Reinin
  - Zycha
  - Pregabalin
    - Funxion
    - Lyrica
    - Prgmax M-75*