Objective: It still remains unclear if lumbar supports are effective for the treatment of chronic low back pain. The objective of the present study is to assess and compare the short-term efficiency of extension-controlled lumbar support and elastic lumbar support on low back pain, lumbar flexibility and back-specific disability in chronic low back pain patients. We also investigated the factors affecting the lumbar support compliance. Materials and Methods: One hundred and eighteen chronic low back pain patients were randomly allocated into three groups. Group 1 (n=39) was prescribed traditional, extension-controlled lumbar support; group 2 (n=40) was prescribed elastic lumbar support; both for 6 hours a day for 3 weeks. Lumbar support was not prescribed for group 3 (n=39). All patients used 1000 mg/day naproxen sodium. Pain severity was evaluated with numeric rating scale (NRS), back flexibility was evaluated with Schober test and back-specific disability was evaluated with Roland-Morris Disability Questionnaire (RMDQ). A 30% improvement was considered as threshold for identifying clinically meaningful improvement on NRS and RMDQ. Results: Clinically meaningful improvement was detected on NRS (45%) and RMDQ (35%) in group 1; on NRS (37%) in group 2. No meaningful clinical improvement was detected on NRS and RMDQ in group 3. Lumbar support compliance was 52.1%. Compliance was positively correlated with patients’ pre-treatment positive beliefs about the lumbar support and negatively correlated with side effects of lumbar support. Conclusion: In chronic low back pain patients, extension-controlled lumbar support or elastic lumbar support usage in addition to classical medical treatment is better than classical medical treatment alone in terms of pain intensity in short term. Extension-controlled lumbar support improves back-specific disability. Compliance with the lumbar support was increased with the patients’ pre-treatment positive beliefs about lumbar support and decreased with the side effects of lumbar support.