



# Effective Health Care

## Treatment for Post-traumatic Osteoarthritis

### Nomination Summary Document

#### Results of Topic Selection Process & Next Steps

- The topic, *Treatment for Post-traumatic Osteoarthritis*, is not feasible for a full systematic review due to the limited data available for a review at this time.
- *Treatment for Post-traumatic Osteoarthritis* could potentially be considered for new research in comparative effectiveness.

#### Topic Description

**Nominator(s):** Individual

**Nomination Summary:** The nominator is concerned that there is insufficient guidance and clarity regarding the best treatment options for injury-induced osteoarthritis (also referred to as post-traumatic osteoarthritis) in the literature. In his/her experience, treatment recommendations vary based on a clinician's area of specialty.

**Population(s):** Patients with post-traumatic osteoarthritis

**Intervention(s):** Pharmaceuticals (e.g., acetaminophen, nonsteroidal anti-inflammatory drugs, narcotics), physical therapy, weight-loss programs, and procedures (e.g., cortisone shots, lubrication injections, bone realignment, joint replacement), treatments of the injury (acute), or later in time course (subacute or chronic)

**Comparator(s):** Those listed above (i.e., compared to each other or to different management approaches)

**Outcome(s):** Morbidity, mortality, hospitalizations, need for surgery, mobility, physical functioning, occurrence of adverse events, and quality of life

**Key Questions from Nominator:**

1. What are the comparative safety and effectiveness of strategies to treat and manage post-traumatic osteoarthritis?
2. In particular, for patients with post-traumatic osteoarthritis, what is the best way to stop the cycle of cartilage degradation, inflammatory response, and further cartilage damage?

#### Considerations

- The topic meets Effective Health Care (EHC) Program appropriateness and importance criteria. (For more information, see <http://effectivehealthcare.ahrq.gov/index.cfm/submit-a-suggestion-for-research/how-are-research-topics-chosen/>.)

- Post-traumatic osteoarthritis is a subset of osteoarthritis, and accounts for 12% of all osteoarthritis cases. Unlike osteoarthritis, which is caused by long-term wear and tear, post-traumatic osteoarthritis is the result of a previous injury. The risk of post-traumatic osteoarthritis after a significant injury to a joint is between 20% and 50%. The timeline for developing post-traumatic osteoarthritis varies across patients; however, evidence of degeneration that may lead to post-traumatic osteoarthritis is radiographically evident within a year of injury.
- While there are many trials published on treatment options for post-traumatic osteoarthritis, very few studies compare the effectiveness of the different treatment options. Most of the trials focus on surgical treatment options and do not provide sufficient evidence for or against other treatment options such as physical therapy or pharmaceuticals.
- A search for existing systematic reviews did not return any comprehensive reviews on the topic; however, there are several narrative reviews (non-systematic) that may help to provide insight into the treatment of post-traumatic osteoarthritis. These reviews include:
  - Anderson D, Chubinskaya S, Guilak F, et al. Post-traumatic osteoarthritis: improved understanding and opportunities for early intervention. *J Orthop Res.* 2011; 29(6):802-809.
  - Mouzopoulos G, Kanakaris N, Mokawem M, Kontakis G, et al. The management of post-traumatic osteoarthritis. *Minerva Med.* 2011; 102(1):41-58.
  - Buckwalter J, Brown T. Joint injury, repair, and remodeling: roles in post-traumatic osteoarthritis. *Clin Orthop Relat Res.* 2004; 423:7-16.