

# Oral And IV Tylenol Work \*Equally\* Well For Hip Replacement Pain - But Do They Work At All?



By Josh Bloom — March 13, 2019



Bad Headlines Are...Bad. Source: Live Auctioneers [1]

We have another entry in the fiercely competitive "I Can Prescribe Fewer Opioids Than You" contest, and it's not half bad. We can thank New York's Hospital for Special Surgery for a truly nauseating, but attention-grabbing headline of a new [press release](#) [2] (emphasis mine).

*"Study: Intravenous and Pill Form of Acetaminophen Work **Equally Well** After Hip Replacement as Part of Pain Management Plan"*

Well, that's kind of strange, especially since in 2017 I wrote an article based upon a series of Cochrane reviews, which concluded that Tylenol is almost useless in relieving any kind of pain (See [Tylenol Isn't So Safe, But At Least It Works, Right?](#) [3]). In fact, if you read the (very) small print on a Tylenol label it says "Use only as directed. For minor aches and pains" (See [Johnson & Johnson's Shameless Exploitation Of The Opioid Crisis](#) [4]).

I don't get it. How can a drug that *may* be useful for minor pain possibly help patients who have undergone major, painful surgery? As is the case with other shameless click-bait headlines the real story doesn't become evident until you take a careful look at the study and how it was conducted. In this case, you didn't have to look that hard.

The [study](#) [5] itself was well designed: it was prospective and double-blinded, had well-defined outcomes, a good match of the IV and oral groups, and there was a decent number (154) of participants. And to the authors' credit, the title of the [full paper](#) [5] is quite different from that of the

press release. **(1)**

*"IV vs. Oral Acetaminophen as A Component of Multimodal Analgesia After Total Hip Arthroplasty: A Randomized, Blinded Trial."*

G. Westrich, M.D., et. al. *The Journal of Arthroplasty* (2019) DOI: <https://doi.org/10.1016/j.arth.2019.02.030> [6]

In fact, it is difficult to find anything that the researchers did wrong **(1)**. They simply compared two different methods of administering Tylenol, which would be used in a drug cocktail to control pain.

But it's ONLY the press release that will make it to the news and that earns it that a big thumbs-down because the message that will be *received* - and this is **guaranteed** - is:

*"Study: Intravenous and Pill Form of Acetaminophen BOTH WORK WELL After Hip Replacement as Part of Pain Management Plan"*

Which carries a (barely) subliminal message:

*"Opioids are bad and Tylenol is good."*

Which only feeds into the anti-opioid hysteria, just about the last thing we need right now.

Let's take a look at what the study really tells us. Concerning the study design, the authors write:

*"Enrolled patients received either IV acetaminophen and an oral placebo, or oral acetaminophen and an IV placebo in a randomized blinded fashion."*

Right away we can see that what the click-bait title implies cannot be true. The group that got IV Tylenol got a placebo pill so that they didn't know which form of the drug they were getting. And the group that got the pills got a placebo IV solution for the same reason. This is the correct way to compare the two.

Any of you who are still conscious might have noticed by now that there is no placebo group. Why? Because this study was *not* designed to determine how well Tylenol controlled pain; only which method was better for administering the drug, so no placebo (untreated) patients were needed. None of this, however, is evident to anyone seeing the headline for 15 seconds. They will receive the wildly popular but mistaken "Opioids are bad and Tylenol is good" message.

Ironically, the study may be completely irrelevant. The answer to the question "Is Tylenol doing anything to relieve surgical pain" was addressed about a year ago, but in this case, the study involved pain control from knee replacements instead.

A 2017 paper entitled "*Intravenous versus oral acetaminophen as an adjunct to multimodal [again???] analgesia following total knee arthroplasty: a prospective, randomized, double-blind clinical trial*

" addresses just this. This study, which was also published in The Journal of Arthroplasty, was designed to see if there was any benefit to adding Tylenol at all to the "pain cocktail." It doesn't take long to find the answer because a placebo group, which didn't get any Tylenol was included. But it didn't matter. This is what they set out to examine:

***The efficacy of intravenous acetaminophen compared to its oral formulation for postoperative analgesia is unknown. We hypothesized that the addition of acetaminophen to a multimodal analgesia regimen would provide improved pain management in patients following total knee arthroplasty (TKA) and that the effect of acetaminophen would be variable based upon route of delivery.***

O'Neal, J.et. al., *The Journal of Arthroplasty* (2017), doi:  
10.1016/j.arth.2017.05.019.

But the method of delivery of Tylenol made no difference because Tylenol made no difference. All the three groups in the study, IV Tylenol, Tylenol pills and placebo, responded the same - zero. It made no difference:

Findings: "**No significant differences** were found between [the three] groups for any other outcome."

Conclusion: "**Neither intravenous nor oral acetaminophen provides additional analgesia in the immediate postoperative period when administered as an adjunct to multimodal analgesia in patients undergoing TKA in the setting of a spinal anesthetic.**"

You can argue that a knee is not a hip (in most people this is correct) or the study protocols weren't identical, but I'm getting the same message that I've been seeing for years: For most of the reasons that people take Tylenol it is ineffective.

And water is wet.

So, let's give the Hospital for Special Surgery's press release a different title. How about this one?

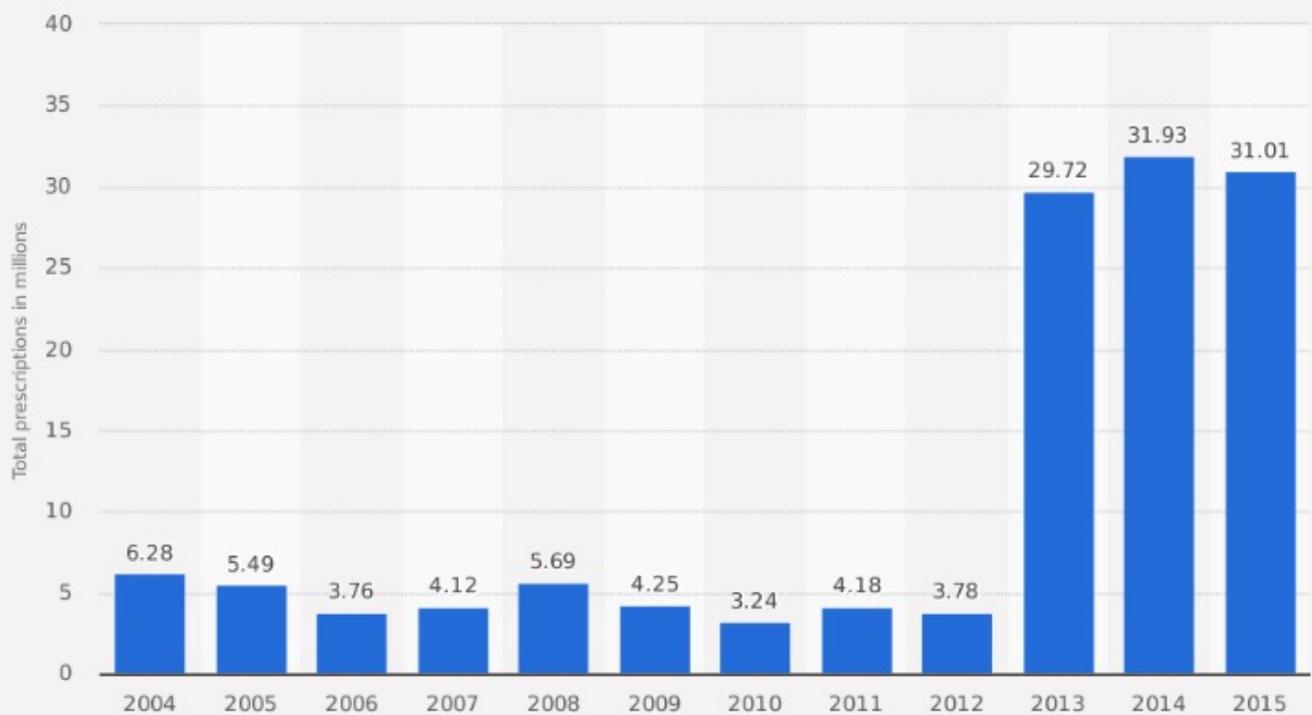
*"Study: Neither Intravenous Nor Pill Forms of Acetaminophen Do A Damn Thing For Pain After Hip Replacement. Or any other kind of pain."*

Or more succinctly...

*"Tylenol Just Plain Sucks"*

Which makes the following graph both hilarious and pathetic at the same time.

## Number of acetaminophen prescriptions in the U.S. from 2004 to 2015 (in millions)



Sources  
AHRQ; ClinCalc  
© Statista 2018

Additional Information:  
United States; Medical Expenditure Panel Survey; AHRQ; 2004 to 2015

*Tylenol sales go berserk just about the time effective pain medications become radioactive. And people wonder why pain patients are suffering. Source: [Statista.com](https://www.statista.com) [7]*

The graph above says it all - over-restrict opioids and people in pain will have a "multimodal" choice a) be forced to take a whole bunch pills that won't help or, b) try heroin instead.

Brilliant.

NOTE:

(1) Maybe it's correct but pretentious? Hell yeah! Multimodal Analgesia? Who makes up this stuff? All it really means "a bunch of s### mixed together to relieve pain."

---

COPYRIGHT © 1978-2016 BY THE AMERICAN COUNCIL ON SCIENCE AND HEALTH

---

**Source URL:** <https://www.acsh.org/news/2019/03/13/oral-and-iv-tylenol-work-equally-well-hip-replacement-pain-do-they-work-all-13877>

**Links**

[1] [https://www.liveauctioneers.com/item/58862905\\_-dewey-defeats-truman-chicago-tribune-newspaper](https://www.liveauctioneers.com/item/58862905_-dewey-defeats-truman-chicago-tribune-newspaper)

- [2] [https://eurekaalert.org/pub\\_releases/2019-03/hfss-sfi031219.php](https://eurekaalert.org/pub_releases/2019-03/hfss-sfi031219.php)
- [3] <https://www.acsh.org/news/2017/09/18/tylenol-isnt-so-safe-least-it-works-right-11827>
- [4] <https://www.acsh.org/news/2019/02/26/johnson-johnsons-shameless-exploitation-opioid-crisis-13832>
- [5] [https://www.arthroplastyjournal.org/article/S0883-5403\(19\)30186-X/fulltext](https://www.arthroplastyjournal.org/article/S0883-5403(19)30186-X/fulltext)
- [6] <https://doi.org/10.1016/j.arth.2019.02.030>
- [7] <https://www.statista.com/statistics/781739/acetaminophen-prescriptions-number-in-the-us/>