

Pain and Anxiety Medications Are Uncommon for Patients Who Have an Intrauterine Device Placed, Though Rates Increasing

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Key Findings:

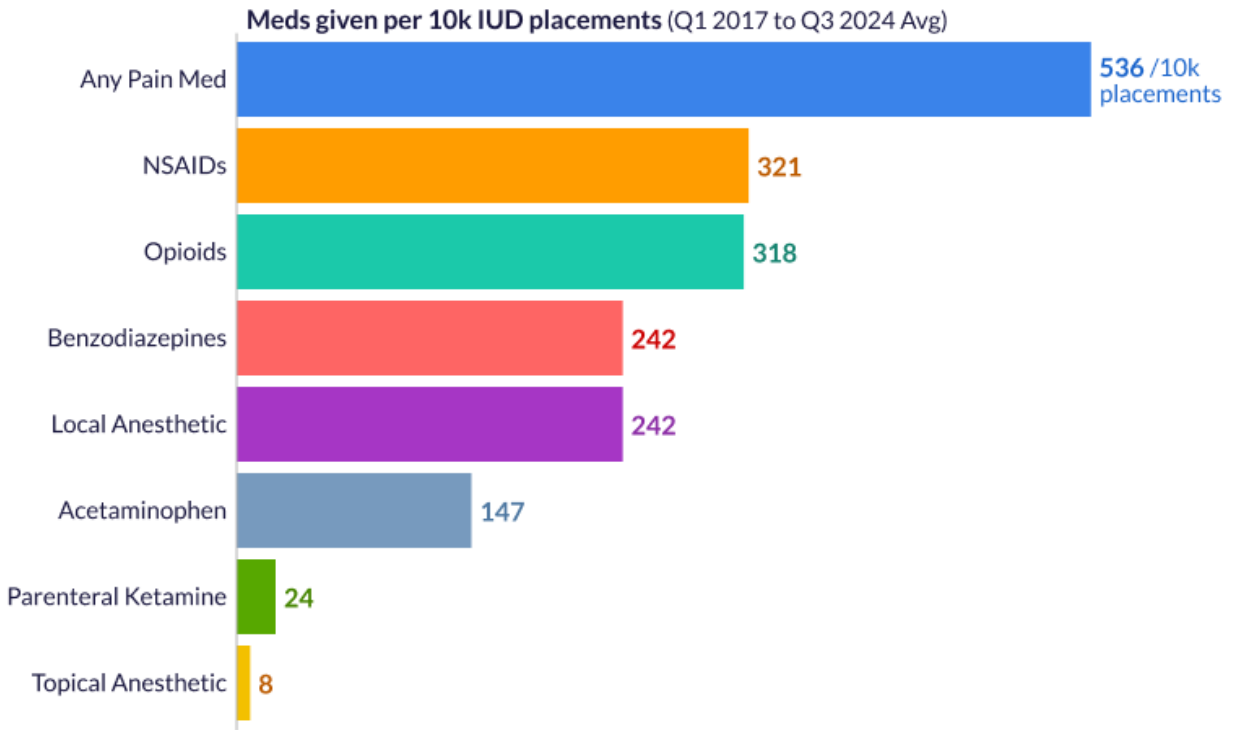
- Between Q1 2017 and Q3 2024, only 536 per 10,000 IUD placements had a documented administration of a pain or anxiety medication on the same day as the procedure encounter.
- However, pain or anxiety medication administrations on the same day as IUD placements have become more frequent in recent years, increasing 170% from 343 administrations per 10,000 IUD placements in Q1 2017 to 927 administrations per 10,000 placements in Q3 2024.

Intrauterine devices, or IUDs, have become a more popular method of birth control in women in recent years.¹ However, many women have noted considerable pain or cramping with IUD placement procedures.² In August 2024, the Centers for Disease Control and Prevention released updated recommendations for providers who insert IUDs to counsel patients on available options for management of pain associated with IUD placement.³

To further understand pain and anxiety management associated with IUD placements, we studied 2.4 million outpatient IUD placement procedures between Q1 2017 and Q3 2024. We studied the rate of pain or anxiety medications administered on the same day as an IUD placement encounter. These rates do not include over-the-counter or prescribed medications that a patient may have taken prior to their procedure.

We found that 536 per 10,000 IUD placements (5.36%) were accompanied by a pain or anxiety medication administration documented on the same day. The most commonly documented medications were NSAIDs and opioids, at 321 and 318 per 10,000 IUD placements respectively. Topical anesthetics were documented as given least often with just 8 administrations per 10,000 IUD placements.

Average Rate of Pain or Anxiety Medication Administration During IUD Placements

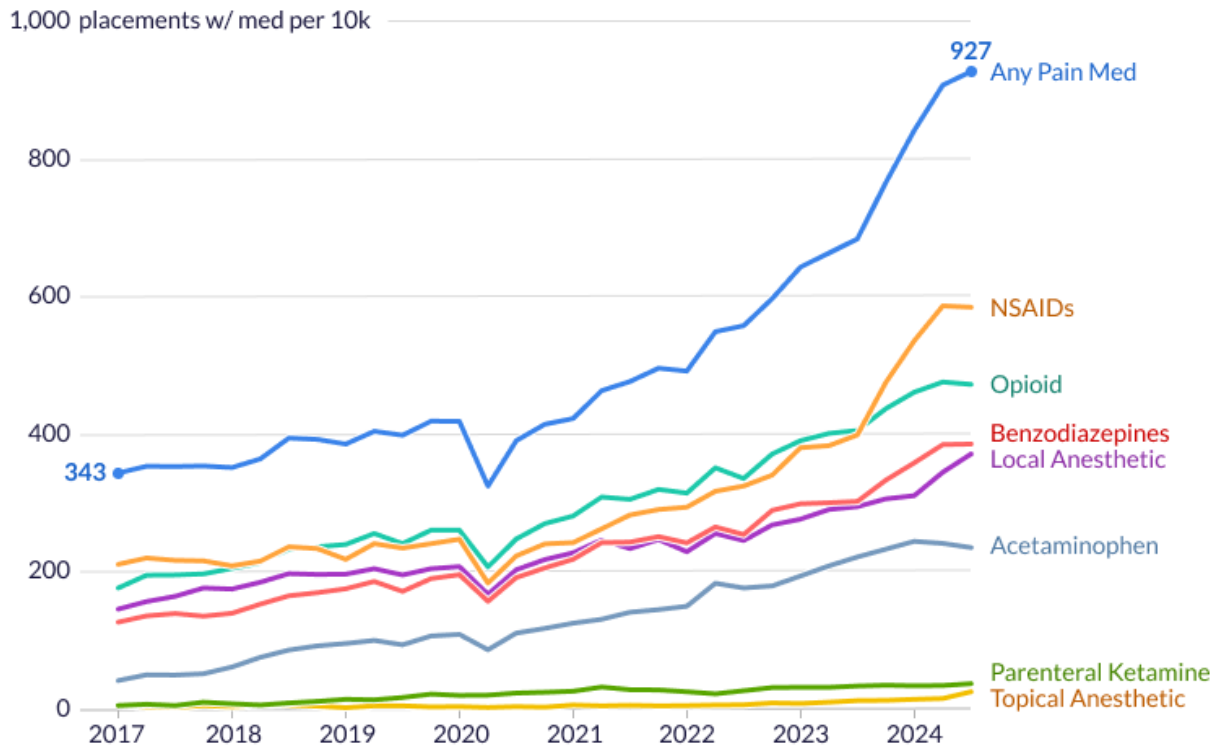


N=2,428,001 placements "Average Rate of Pain or Anxiety Medication Administration During IUD Placements," 2025. EpicResearch.org

Figure 1. The rate of encounters with pain or anxiety medication administrations per 10,000 IUD placements by medication type between Q1 2017 and Q3 2024.

However, pain medication administrations with IUD placements have increased in recent years compared to early in the study period. The rate of pain medication administrations of any type increased 170% from Q1 2017 to Q3 2024, going from 343 per 10,000 insertions to 927 per 10,000 insertions, as shown in Figure 2.

Pain or Anxiety Medication Administration Rates During IUD Placements Over Time



N=2,428,001 placements "Pain or Anxiety Medication Administration Rates During IUD Placements Over Time," 2025. EpicResearch.org

Figure 2. The quarterly rate of encounters with pain medication administrations per 10,000 IUD placements by quarter.

These data come from Cosmos, a dataset created in collaboration with a community of Epic health systems representing more than 289 million patient records from 1,600 hospitals and more than 37,000 clinics from all 50 states, Lebanon, and Saudi Arabia. This study was completed by two teams that worked independently, each composed of a clinician and research scientists. The two teams came to similar conclusions. Graphics by Brian Olson.

References

1. Intrauterine device (IUD). Cleveland Clinic. <https://my.clevelandclinic.org/health/treatments/24441-intrauterine-device-iud>. Accessed on November 21, 2024.
2. Duke Health. Top IUD TikTok videos often portray painful experiences, healthcare mistrust. Duke Health. December 7, 2022. <https://corporate.dukehealth.org/news/top-iud-tiktok-videos-often-portray-painful-experiences-healthcare-mistrust>. Accessed December 11, 2024.
3. Curtis KM, Nguyen AT, Tepper NK, et al. U.S. Selected Practice Recommendations for Contraceptive Use, 2024. MMWR Recomm Rep 2024;73(No. RR-3):1-77. DOI: <http://dx.doi.org/10.15585/mmwr.rr7303a1>. Accessed on November 21, 2024.

Data Definitions

Term	Definition
Study period	1/1/2017 to 9/30/2024
Study population	All patients with an IUD insertion procedure during the study period
IUD insertion	A non-inpatient hospitalization encounter with a diagnosis with ICD-10-CM code Z30.430 or a procedure with CPT code 58300.

	<p>If insertions are within three days of one another, they were considered the same insertion.</p> <p>If the insertion occurred on a day during which the patient was admitted, it was excluded.</p>
Outcomes	<p>Documented medication administration record (MAR) of:</p> <p>Acetaminophen</p> <ul style="list-style-type: none"> • A medication with a simple generic name of “acetaminophen” <p>NSAIDs</p> <ul style="list-style-type: none"> • A medication with a pharmaceutical class of “NSAIDS, CYCLOOXGENASE INHIBITOR TYPE ANALGESICS” <p>Local anesthetic</p> <ul style="list-style-type: none"> • A medication with a pharmaceutical class of "LOCAL ANESTHETICS" and a route of “injection” <p>Topical anesthetic</p> <ul style="list-style-type: none"> • A medication with a simple generic name containing “caine” or “ketamine HCl” with either: <ul style="list-style-type: none"> ○ A therapeutic class of "ANESTHETICS" and a route of "topical (top)" or "transmucosal" ○ A pharmaceutical class of “TOPICAL LOCAL ANESTHETICS” <p>Parenteral ketamine</p> <ul style="list-style-type: none"> • A medication with a simple generic name of “ketamine” and a route that is not “topical (top)” <p>Opioid</p> <ul style="list-style-type: none"> • A medication with a pharmaceutical class containing “OPIOID ANALGESIC” <p>Benzodiazepines</p> <ul style="list-style-type: none"> • A medication with a simple generic name: <ul style="list-style-type: none"> ○ Starting with “lorazepam” ○ Equal to “alprazolam” ○ Equal to “midazolam” with a route that is not “oral” or “buccal”

Table 1: Average Rate of Pain or Anxiety Medication Administration During IUD Placements

Medication Type	Count	Rate per 10,000
Total	2,428,001	
None	2,297,783	9463.7
Multiple Types	81,577	336
Any Pain Med	130,218	536
NSAIDs	78,047	321
Opioids	77,231	318
Short-Acting Benzos	58,848	242
Local Anesthetic	58,833	242

Tylenol	35,687	147
Parenteral Ketamine	5,874	24
Topical Anesthetic	1,958	8

Table 2A: Pain or Anxiety Medication Administration Rates During IUD Placements Over Time

	Total Count	Any Pain Med		NSAIDs		Opioid		Benzodiazepines	
		Count	per 10k	Count	per 10k	Count	per 10k	Count	per 10k
Overall	2,428,001	130,218	536	78047	321	77231	318	58848	242
2017 Q1	48,822	1677	343	1,030	211	861	176	619	127
2017 Q2	52,650	1859	353	1,158	220	1,027	195	716	136
2017 Q3	54,278	1915	353	1,176	217	1,061	195	757	139
2017 Q4	58,677	2075	354	1,266	216	1,156	197	796	136
2018 Q1	57,927	2036	351	1,208	209	1,187	205	809	140
2018 Q2	64,072	2331	364	1,379	215	1,363	213	981	153
2018 Q3	62,619	2469	394	1,479	236	1,459	233	1,034	165
2018 Q4	64,497	2530	392	1,506	233	1,524	236	1,093	169
2019 Q1	63,210	2436	385	1,379	218	1,514	240	1,107	175
2019 Q2	70,522	2848	404	1,699	241	1,803	256	1,312	186
2019 Q3	71,477	2846	398	1,675	234	1,722	241	1,227	172
2019 Q4	74,879	3137	419	1,804	241	1,950	260	1,424	190
2020 Q1	72,638	3039	418	1,797	247	1,891	260	1,422	196
2020 Q2	48,219	1565	325	886	184	998	207	757	157
2020 Q3	77,336	3020	391	1,725	223	1,914	247	1,480	191
2020 Q4	82,472	3417	414	1,982	240	2,226	270	1,694	205
2021 Q1	78,604	3320	422	1,906	242	2,208	281	1,713	218
2021 Q2	87,987	4075	463	2,309	262	2,716	309	2,131	242
2021 Q3	84,711	4034	476	2,391	282	2,586	305	2,059	243
2021 Q4	86,293	4276	496	2,506	290	2,757	319	2,166	251
2022 Q1	79,102	3887	491	2,323	294	2,487	314	1,915	242
2022 Q2	88,974	4882	549	2,820	317	3,124	351	2,359	265
2022 Q3	91,928	5122	557	2,983	324	3,085	336	2,335	254
2022 Q4	90,828	5420	597	3,090	340	3,370	371	2,628	289
2023 Q1	90,763	5831	642	3,451	380	3,542	390	2,711	299
2023 Q2	98,716	6546	663	3,782	383	3,959	401	2,964	300
2023 Q3	96,404	6589	683	3,843	399	3,904	405	2,913	302
2023 Q4	101,239	7752	766	4,812	475	4,422	437	3,372	333
2024 Q1	105,186	8846	841	5,632	535	4,848	461	3,768	358
2024 Q2	111,831	10140	907	6,555	586	5,319	476	4,301	385
2024 Q3	111,140	10298	927	6,495	584	5,248	472	4,285	386

Table 2B: Pain or Anxiety Medication Administration Rates During IUD Placements Over Time

	Total Count	Local Anesthetic		Acetaminophen		Parenteral Ketamine		Topical Anesthetic		None		Multiple	
		Count	per 10k	Count	per 10k	Count	per 10k	Count	per 10k	Count	per 10k	Count	per 10k
Overall	2,428,001	58833	242	35687	147	5874	24	1958	8	2297783	9464	81577	336
2017 Q1	48,822	712	146	205	42	27	6	27	6	47,145	9657	842	172
2017 Q2	52,650	826	157	265	50	39	7	22	4	50,791	9647	1,022	194
2017 Q3	54,278	891	164	270	50	30	6	17	3	52,363	9647	1,081	199
2017 Q4	58,677	1,034	176	305	52	61	10	32	5	56,602	9646	1,191	203
2018 Q1	57,927	1,014	175	357	62	49	8	24	4	55,891	9649	1,234	213
2018 Q2	64,072	1,183	185	484	76	41	6	35	5	61,741	9636	1,432	223
2018 Q3	62,619	1,235	197	541	86	58	9	41	7	60,150	9606	1,541	246
2018 Q4	64,497	1,264	196	596	92	75	12	32	5	61,967	9608	1,645	255
2019 Q1	63,210	1,242	196	605	96	94	15	17	3	60,774	9615	1,594	252
2019 Q2	70,522	1,442	204	707	100	98	14	38	5	67,674	9596	1,903	270
2019 Q3	71,477	1,397	195	670	94	123	17	37	5	68,631	9602	1,819	254
2019 Q4	74,879	1,530	204	800	107	166	22	29	4	71,742	9581	2,059	275
2020 Q1	72,638	1,507	207	793	109	149	21	29	4	69,599	9582	2,035	280
2020 Q2	48,219	807	167	417	86	100	21	15	3	46,654	9675	1,045	217
2020 Q3	77,336	1,568	203	859	111	184	24	33	4	74,316	9609	2,050	265
2020 Q4	82,472	1,794	218	972	118	205	25	29	4	79,055	9586	2,352	285
2021 Q1	78,604	1,787	227	985	125	207	26	50	6	75,284	9578	2,356	300
2021 Q2	87,987	2,165	246	1,154	131	285	32	46	5	83,912	9537	2,885	328
2021 Q3	84,711	1,978	233	1,196	141	242	29	52	6	80,677	9524	2,744	324
2021 Q4	86,293	2,129	247	1,251	145	243	28	45	5	82,017	9504	2,922	339
2022 Q1	79,102	1,811	229	1,185	150	204	26	46	6	75,215	9509	2,632	333
2022 Q2	88,974	2,274	256	1,630	183	201	23	58	7	84,092	9451	3,339	375
2022 Q3	91,928	2,254	245	1,620	176	250	27	61	7	86,806	9443	3,224	351
2022 Q4	90,828	2,436	268	1,630	179	290	32	85	9	85,408	9403	3,499	385
2023 Q1	90,763	2,507	276	1,758	194	291	32	77	8	84,932	9358	3,617	399
2023 Q2	98,716	2,866	290	2,061	209	316	32	105	11	92,170	9337	4,079	413
2023 Q3	96,404	2,840	295	2,135	221	327	34	125	13	89,815	9317	4,081	423
2023 Q4	101,239	3,098	306	2,357	233	355	35	132	13	93,487	9234	4,715	466
2024 Q1	105,186	3,265	310	2,568	244	361	34	154	15	96,340	9159	5,137	488
2024 Q2	111,831	3,855	345	2,698	241	387	35	179	16	101,691	9093	5,783	517
2024 Q3	111,140	4,122	371	2,613	235	416	37	286	26	100,842	9073	5,719	515