



## Efforts to decrease opioid prescribing after surgery are a major priority for healthcare and policy makers...

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## Substantial variations in amounts prescribed on discharge for consumption at home ...

Mill et al *Annals of Surgery* • Volume 265, Number 4, April 2017

TABLE 1. General Surgery Cases Performed and Opioids Prescribed

	Partial Mastectomy	Partial Mastectomy With Sentinel Lymph Node Biopsy	Laparoscopic Cholecystectomy	Laparoscopic Inguinal Hernia Repair	Open Inguinal Hernia Repair	Total
Cases performed	183	112	240	80	85	700
Number patients excluded	8	8	32	4	6	58 (8.3%)
Opioid analgesic	2	5	24	3	4	38 (5.4%)
Complications	6	3	6	1	2	18 (2.6%)
Patients analyzed	175	104	208	76	79	642
Patients receiving opioid prescription	129 (73.7%)	92 (88.5%)	205 (98.6%)	76 (100%)	79 (100%)	581 (90.5%)
Opioids pills prescribed						
Mean (SD)	19.8 (10.2)	23.7 (11.3)	33.2 (16.9)	33.8 (9)	33.2 (13.7)	
Median	20	20	30	30	30	
Range	0-50	0-60	0-100	15-70	15-100	
Patients received refills	1 (0.6%)	0	0 (0%)	1 (1.3%)	1 (1.3%)	12 (1.9%)

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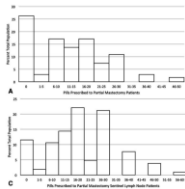
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## How much is truly needed?

*Annals of Surgery* • Volume 265, Number 4, April 2017 Excessive Dosage of Opioids in Surgery




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### And once it reaches the home...

Table 4. Source of Prescription Opioids Obtained for Most Recent Episode of Misuse Among Adults With Misuse and Use Disorder in Past 12 Months\*

Source	Adults Reporting Misuse Without Use Disorder (n = 2500)	Adults Reporting Use Disorder (n = 900)
Obtained for free from friend/relative	44.6 (41.79-47.39)	21.8 (16.86-26.78)
Obtained from 1 physician	33.8 (30.95-36.55)	40.4 (34.08-46.62)
Obtained from >1 physician	1.3 (0.60-1.98)	3.9 (0.50-7.24)
Brought from friend/relative	8.5 (6.78-10.00)	14.1 (10.47-17.65)
Bought from drug dealer/stranger	3.1 (2.32-3.88)	13.8 (10.25-17.27)
Stolen from friend/relative	3.4 (2.53-4.61)	†
Stolen from physician's office, clinic, or pharmacy	0.5 (0.20-0.86)	†
Other	4.7 (3.41-5.95)	3.1 (1.22-5.06)

\* Values are weighted percentages (95% CIs). The Substance Abuse and Mental Health Services Administration requires that any description of overall sample sizes based on the restricted use data files be rounded to the nearest hundred to minimize potential disclosure risk. † Estimate suppressed because of low statistical precision.

Annals of Internal Medicine • Vol. 167, No. 5 • 5 September 2017 299

...it can become a habit of another colour

### ...initiation of illicit opioid use is often preceded by prescription opioid misuse

**NIH Public Access**  
 Author Manuscript  
 Published in final edited form as:  
*Int J Drug Policy*. 2014 March ; 25(2): 257-266. doi:10.1016/j.drugpo.2013.10.004.

**"Every 'Never' I Ever Said Came True": Transitions from opioid pills to heroin injecting**

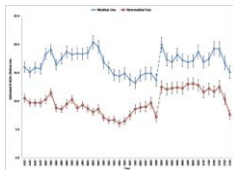
Sarah G. Mars, PhD<sup>1</sup>, Philippe Bourgeois, PhD<sup>2</sup>, George Karandinos<sup>3</sup>, Fernando Montero<sup>4</sup>, and Daniel Ciccarone, MD, MPH<sup>5</sup>

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<sup>4</sup>Columbia University

Pediatrics  
April 2017, VOLUME 139 / ISSUE 4  
Article

### Trends in Medical and Nonmedical Use of Prescription Opioids Among US Adolescents: 1976-2015

Sean Esteban McCabe, Brady T. West, Phil Veltz, Vita V. McCabe, Sarah A. Stoddard, Carol J. Boyd



**How can we help?**

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**We can begin by stating the problem clearly...**

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A PROSPECTIVE collaborative study between Opioid Stewardship group, HSC Medication Safety Committee, Shoppers Drug Mart and REB which followed 110 families discharged post surgery who filled an opioid prescription at our hospital pharmacy

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**Pass-fail points...**

- All opioid converted to oral morphine mg equivalence (MME)
- Measure and report pre to post discharge comparison ratios

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**Who are we talking about?**



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**How much did we dispense?**

**8,672 mgs of Oral Morphine Equivalents (MME) dispensed to 110 families**

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- 21 were lost to follow-up (1416 mgs unaccounted for)
- 7256 opioid MME for us to follow-up on

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How does our discharge prescribing relate to pre-discharge consumption?

	Pre-Discharge 24hr consumption (MME per kg)	Post-Discharge 24hr consumption (MME per kg)
Mean		
Range	0.04 – 2.99	0.35 – 2.99

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How does our discharge prescribing relate to pre-discharge consumption?

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Range	0.04 – 2.99	0.35 – 2.99

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How does our discharge prescribing relate to pre-discharge consumption?

	Pre-Discharge 24hr consumption (MME per kg)	Post-Discharge 24hr consumption (MME per kg)	24hr MME ratio per kg (pre to post discharge)
Mean	0.78	1.18	*
Range	0.04 – 2.99	0.35 – 2.99	0.37 – 25.00

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### How does our discharge prescribing relate to pre-discharge consumption?

Pre to Post 24hr Ratio	Count*
< 1	17
1<2.99	48
3<4.99	7
5<9.99	6
>10	2

\* n = 80, as 9 patients received no opioids prior to discharge

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### How much drug went unused?

Amount of Script Used	Count	Range of Amount Prescribed (MME)	Opioid remaining unused the day of stopping med (MME)
None			
1-24%			
25-49%			
50-74%			
75% or More			
<b>TOTAL</b>			<b>4874</b>

67.2% of the opioid mgs we could follow up on were not used  
 remember earlier slide, "42% to 71% of tablets went unused"

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### Who did not need opioids the most?

Amount of Script Used	Count	Opioid remaining unused the day of stopping med (MME)
None	25	1268
1-25%	27	2664
		<b>Total: 3932 MME</b>

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**Who did not need opioids the most?**

Amount of Script Used	Count	Mean Pre-Post Ratio (range)	Opioid remaining unused the day of stopping med (MME)
None	25		1268
1-25%	27		2664
25-49%	12		534
50-74%	9		362
75% or More	12		46
<b>TOTAL</b>	<b>85</b>		<b>4874</b>

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**Who did not need opioids the most?**

Amount of Script Used	Count	Mean Pre-Post Ratio (range)	Opioid remaining unused the day of stopping med (MME)
None	25	6.88 (0.58 – 44.0)	1268
1-25%	27	4.43 (0.54 – 17.1)	2664
25-49%	12	2.07 (0.49 – 10.0)	534
50-74%	9	1.97 (0.8 – 3.0)	362
75% or More	12	*	46
<b>TOTAL</b>	<b>85</b>		<b>4874</b>

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**Who did not need opioids the most?**

Of the 4874 MME not used...

...52 families had used less than 25% of the amount prescribed/dispensed

and these 52 families accounted for 3932 MME unused drug (81% of total unused)

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### How much opioid was still in the home on 4-week follow up?

- 6 families threw out 235 MME
- 10 returned 816 MME to pharmacies (17% of total amount that could have been returned)
- 3 families could not quantify how much MME remained in their home ...
- 62 families had a total of **3826** MME still in their homes (53% of total amount dispensed to all families we could reach on follow-up)
- 42 of those 62 used < 25% of total amount initially prescribed & dispensed

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### How much drug remained in the home?

Amount of Script Used	Opioid remaining unused the day of stopping med (MME)	Opioid remaining in the home on 4-week follow-up (MME)
None	1268	1181
1-25%	2664	1835
25-49%	534	489
50-74%	362	280
75% or More	46	41
<b>TOTAL</b>	<b>4874</b>	<b>3826</b>

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### How much drug remained in the home?

Amount of Script Used	Mean Pre-Post Ratio (range)	Opioid remaining in the home on 4-week follow-up (MME)
None	6.88 (0.58 – 44.0)	1181
1-25%	4.43 (0.54 – 17.1)	1835
25-49%	2.07 (0.49 – 10.0)	489
50-74%	1.97 (0.8 – 3.0)	280
75% or More	*	41
<b>TOTAL</b>		<b>3826</b>

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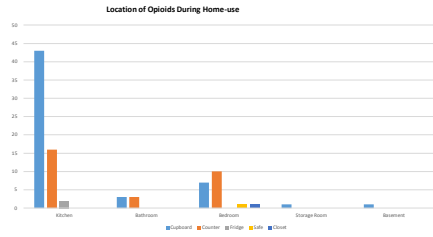
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### Where in the home were opioids kept?




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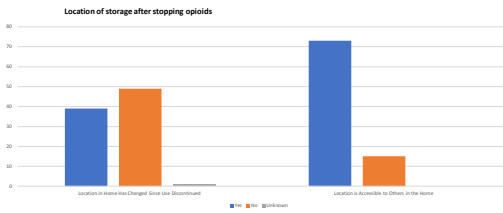
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### Were opioids secured once use had ceased?




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### How do families feel about having opioids in the home?

Comfort with drug stored at home	Count
Very Comfortable	56
Somewhat Comfortable	15
Somewhat Uncomfortable	12
Very Uncomfortable	6

10/89 (11.2%) of parents said they were **keeping the medication for future use**  
 One parent indicated they provided their child with a 'half-dose' for non-surgical pain one week later (baby was teething)  
 Three participants indicated there was **more than one opioid script in the home**  
 Unsafe disposal practices included 'pouring it in the recycle bin' and ...

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... 'burying it in the woods'



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### Current Practice

- 110 surgical families received 8,672 MME on discharge
- Of the 7256 MME we could trace, 4874 went unused ... (< 25% used)
- ~ 1050 MME disposed or returned to pharmacies
- 3830 MME still 'at large' in the community at 4-week follow up
- 79% of which was in families who used less than 1/4 of amount received
- 22 families did not use the opioids they received at all and accounted for 31% of all MME still in the community on 4 week follow-up
- 21 families could not even be reached 4-weeks after surgery (1416 MME)

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Next steps ...

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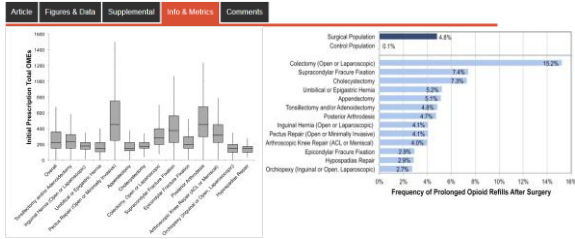
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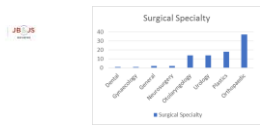
Pediatrics  
January 2018, VOLUME 141 / ISSUE 1  
Article

Persistent Opioid Use Among Pediatric Patients After Surgery

Calista M. Harbaugh, Jay S. Lee, Hsou Mei Hu, Sean Esteban McCabe, Terri Voepel-Levis, Michael J. Englesbe, Chad M. Brummett, Jennifer F. Wallace



**OPIOID PRESCRIPTION AND USAGE IN ADOLESCENTS UNDERGOING ORTHOPAEDIC SURGERY IN THE UNITED STATES**  
A Systematic Review



- There appear to be no studies on self-administered opioid pain medication following orthopaedic surgery in an adolescent population, suggesting that there is no objective basis for the current prescription recommendations
- Adolescent opioid pain management following outpatient orthopaedic surgery is not documented
- Current recommendations for opioid prescription in adolescents lack support and are primarily based on adult dosages
- Adult studies suggest that opioid medications may be overprescribed following outpatient orthopaedic surgery
- These results clearly indicate that there is a pressing need for quantitative research on pain management following outpatient orthopaedic surgery in the adolescent population in the United States.

- Within our orthopedic cohort (n, 38) we have a subset of # patients (n, 25)
- Pre-discharge mean opioid consumption per kg = 0.8 (SD 0.33)
- Post-discharge mean opioid prescribing per kg = 1.06 (SD 0.47)
- Mean pre to post ratio = 2.46
- 3,009 MME dispensed to these 25 patients (1/3 of all prescribing in this study)
- 543 MME consumed, 1961 MME not consumed (21% total MME consumption)
- Mean day for stopping opioid = Day 3.75 (only 3 patients surpassed 5 days use)

**Thank You**

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