



Infectious Diseases Society of America Emerging Infections Network

Report for Query: 'Pediatric Chronic Osteomyelitis (COM)'

Three emailed requests to answer this query were sent to all pediatric EIN members (4/19, 4/26 and 5/3/22).

194 of 387 (50%) physicians with a pediatric infectious disease practice responded from 4/19 to 5/12/22.

Note: The denominator includes only members who have ever responded to an EIN survey; 30 members who joined the EIN but have not yet responded to any surveys so far are excluded.

Note: Not all respondents answered all questions, so totals for individual questions vary.

Practice characteristics of the 194 EIN member respondents:

Practice:	Pediatric infectious diseases	<u>194 (100%)</u>
Region:	New England	10 (5%)
	Mid Atlantic	26 (13%)
	East North Central	38 (20%)
	West North Central	16 (8%)
	South Atlantic	28 (14%)
	East South Central	13 (7%)
	West South Central	10 (5%)
	Mountain	14 (7%)
	Pacific	36 (19%)
	Canada	<u>3 (2%)</u>
Years' experience since ID fellowship:	<5 years	36 (19%)
	5-14	60 (31%)
	15-24	45 (23%)
	≥25	<u>53 (27%)</u>
Primary hospital type:	Community	14 (7%)
	Non-university teaching	56 (29%)
	University	115 (59%)
	VA hospital or DOD	2 (1%)
	City/county	6 (3%)
	Outpatient only	<u>1 (0.5%)</u>

Question 1. Do you care for children with suspected chronic osteomyelitis?*[Answered by 194 respondents]*

No (opt out of survey)

32 (16%)

Yes

162 (84%)

The 32 respondents who answered 'No' stopped here and submitted the survey.
 The 162 respondents who answered 'Yes' answered at least some of the remaining questions

Question 2. Approximately how many cases of COM do you personally care for each year?

<3 67 (41%)

3-6 71 (44%)

7-10 13 (8%)

>10 11 (7%)

[Not answered] 1 (0.6%)**Question 3. Select all findings below that you consider necessary for diagnosis of COM:***[Select all that apply; numbers add to more than 100%]*

Prolonged duration of symptoms 124 (77%)

At least ___ weeks *[Answered by 93: range 1-12, mean 4.8 weeks]*At least ___ months *[Answered by 26: range 0.5-6, mean 2.4 months]*

Abnormal plain film at presentation 78 (48%)

Normal or near normal acute inflammatory markers at presentation 73 (45%)

(e.g. CRP, WBC count)

Histopathological evidence of chronic inflammatory infiltrate 65 (40%)

Patient risk factors (e.g. prior trauma, retained orthopedic implant) 57 (35%)

No specific criteria (e.g. clinical gestalt) 34 (21%)

Sequestrum 29 (18%)

Draining sinus/fistula tract 28 (17%)

Involucrum 23 (14%)

Bone abscess 18 (11%)

Identification of a potential pathogen 14 (9%)

Not sure 0

Other* 12 (7%)

[Not answered] 1 (0.6%)

There was a lot of variability in answers: the single most common selection was of 3 choices (normal acute inflammatory markers, abnormal plain film and prolonged duration) by 12 (7%) respondents.

*OTHER open-text field answers by 13 respondents: Many of the options are sufficient but not necessary (by 9), MRI (by 2), Other reason to suspect prolonged duration/ rule out malignancy (by 2).

Question 4. What is the most common etiology of COM in your patients?

COM associated with orthopedic implants	71 (44%)
Post-acute COM (progression of acute osteomyelitis to a chronic stage)	36 (22%)
COM associated with a contiguous focus of infection	13 (8%)
COM associated with penetrating trauma	11 (7%)
Chronic Recurrent Non-bacterial Osteomyelitis	10 (6%)
Primary hematogenous COM	7 (4%)
Not sure	8 (5%)
Other*	6 (4%)

*OTHER open-text field answers by 7 respondents: “1/3rd CRMO, 1/3rd progression from acute to chronic, 1/3rd chronic device-associated infection”, “CRNO may be second”, “following orthopedic surgery”, “ortho hardware or pressure ulcers”, “Post-acute esp in paraplegic patient”, “Spread across multiple conditions listed above w a single cause for the majority”, “Usually pts initially treated in another country who present with draining sinus tract”

Question 5. How would you differentiate sub-acute osteomyelitis from COM?

[Select all that apply; numbers add to more than 100%]

Shorter duration of symptoms in sub-acute osteomyelitis	99 (61%)
I don't distinguish between the two	38 (23%)
Lack of sequestrum in sub-acute osteomyelitis	25 (15%)
Lack of involucrum in sub-acute osteomyelitis	24 (15%)
Presence of a Brodie's abscess	23 (14%)
Lack of chronic inflammatory infiltrate on histopathology	23 (14%)
Lack of draining sinus in sub-acute osteomyelitis	23 (14%)
Growth on culture with sub-acute osteomyelitis	10 (6%)
Not sure	15 (9%)
Other*	8 (5%)
<i>[Not answered]</i>	2 (1%)

The single most common selection was of a single choice (shorter duration in sub-acute) by 50 (31%) respondents.

*OTHER open-text field answers by 6 respondents: “Full gestalt”, Hx of prior acute osteo at the site more consistent w/ chronic”, “I might use sub-acute to describe acute osteo with longer symptoms (closer to 4 weeks) but I would consider it acute osteo, not chronic”, “I view them as a continuum”, “I wouldn't say I don't distinguish between the two, but I do think of them on a spectrum that mostly has to do with duration of symptoms and underlying etiology”, “In the new AHO guideline, subacute is considered in same category as acute; chronic inflammation does not equal chronic OM”

Question 6. How comfortable are you in diagnosing/recognizing COM in a child?

Very comfortable	54 (33%)
Somewhat comfortable	83 (51%)
Neutral	12 (7%)
Somewhat uncomfortable	8 (5%)
Very uncomfortable	4 (2%)
<i>[Not answered]</i>	1 (0.6%)

Question 7. How many debridement surgeries occur in your typical patient with COM in the 6 months following diagnosis?

1	68 (42%)
2	39 (24%)
At least 3	14 (9%)
Not sure	19 (12%)
Other*	19 (12%)
[Not answered]	3 (2%)

*OTHER open-text field answers by 21 respondents: Highly variable (by 11), typically zero (by 3), It depends on a variety of factors (by 5), 1 or fewer (by 2)

Question 8. How long do you typically treat COM with IV antibiotics prior to any transition to oral therapy, assuming all necessary surgical debridement was undertaken?

<2 weeks	51 (31%)
2-4 weeks	28 (17%)
4-6 weeks	21 (13%)
>6 weeks	5 (3%)
Would not treat with IV antibiotics	32 (20%)
Not sure	0
Other	20 (12%)
[Not answered]	5 (3%)

*OTHER open-text field answers by 23 respondents: It depends on... / Highly variable (by 16), Quick transition to oral (by 7)

Question 9. Which criteria would you consider prior to transitioning to oral antibiotics in COM, assuming all necessary surgical debridement was undertaken?

[Select all that apply; numbers add to more than 100%]

Improved physical exam findings	98 (60%)
Extent of disease	85 (52%)
Improvement in inflammatory markers	82 (51%)
Causative organism	66 (41%)
Location of infection	57 (35%)
Improved imaging findings	19 (12%)
Following a minimum, fixed duration of IV therapy regardless of the above factors	9 (6%)
Would not treat with oral antibiotics	1 (0.6%)
Not sure	5 (3%)
Other	25 (15%)
[Not answered]	2 (1%)

There was a lot of variability in answers: the single most common selection was of 2 choices (improvement in inflammatory markers and improved exam findings) by 13 (8%) respondents.

*OTHER open-text field answers by 31 respondents: It depends on... (by 18), Do not use IV / start with oral treatment (by 12), "I am uncertain how much antibiotic therapy COM needs after debridement. In my heart I think it may be zero but I have frequently treated for ~6 weeks." (by 1)

Question 10. How long do you typically treat COM with oral antibiotics, assuming all necessary surgical debridement was undertaken?

≤6-12 weeks	37 (23%)
3-6 months	84 (52%)
6-12 months	22 (14%)
>1 year	1 (0.6%)
Would not treat with IV antibiotics	0
Not sure	0
Other*	16 (10%)
<i>[Not answered]</i>	2 (1%)

*OTHER open-text field answers by 17 respondents: Variable / It depends on... (by 10), Long-term suppression for specific situations (by 2), Longer if hardware retained (by 4), Specific durations mentioned (by 6)

Question 11. If oral therapy (after any course of IV therapy) is to be used for COM associated with retained orthopedic implants, how long would you typically treat?

[Select all that apply; numbers add to more than 100%]

Duration	90 (56%)
6-12 weeks	3 (3%)
3-6 months	35 (39%)
6-12 months	46 (51%)
>1 year	6 (7%)
Until the implant is removed	71 (44%)
Depending upon recommendations from the surgical team	24 (15%)
As I would for COM without an implant	10 (6%)
Would not treat with oral antibiotics	0
Not sure	2 (1%)
Other*	37 (23%)

*OTHER open-text field answers by 41 respondents: It depends on... (by 19), Until implant removed if possible (by 13), longer for vertebral / spinal fusions / consider suppression (by 5), Specific durations provided (by 5)

Question 12. How comfortable are you treating COM in a child?

Very comfortable	72 (44%)
Somewhat comfortable	71 (44%)
Neutral	8 (5%)
Somewhat uncomfortable	7 (4%)
Very uncomfortable	4 (3%)

Question 13. Check here if interested in collaborating on a multi-site study of COM in children:

Interested	85 (52%)
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Question 14. Any comments about diagnosis or treatment of COM in children?

[open text field; 42 respondents added text]

Excel file with open-text field answers may be viewed here:

http://www.int-med.uiowa.edu/Research/EIN/PedsCOM_Q14_comments.pdf