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Packing versus non-packing outcomes for abscesses after incision and drainage

Nicholas E. O'Bright, MD (PGY-3) and **Jan E. Miller, MD***

Saint Anthony's Hospital, Family Medicine Residency, Oklahoma City, OK

Abstract

Clinical Question—In non-diabetic, non-immunocompromised individuals with skin abscesses, does packing after incision and drainage (I&D) reduce the risk of recurrence or re-intervention compared with not packing?

Answer—No. If the abscess is less than 5 cm, packing does not affect outcomes.

Level of Evidence for the Answer—B

Search Terms—abscess, incision and drainage, packing, healing by primary vs secondary intention

Date Search was Conducted—November 2014

Inclusion Criteria—Published RCTs and meta-analysis studies.

Exclusion Criteria—Abscess greater than 5 cm, abscess in diabetics, abscess in immunocompromised.

Summary of the Issues

The primary and standard of care method for treating small (less than 5 cm) skin abscesses is incision and drainage (I&D)[1] with irrigation.[1,2] The next options include packing the wound and allowing it to heal by secondary intention versus healing by secondary intention alone. With larger abscess measuring greater than 5 cm, surgical evaluation and treatment is warranted. The factors affecting the decision are healing time, decreased need for re-intervention and patient comfort. A 2010 survey conducted amongst emergency department (ED) providers revealed that a majority of them opted to pack the wound cavity standardly.[3] "Standard packing" refers to the technique of filling the abscess cavity with ribbon gauze after I&D, though notably, variation exists amongst practitioners.[4]

Scenarios where it is standard of care to pack abscesses are those that require surgical intervention in addition to diabetic and/or immunocompromised patients. However, these patients were excluded for the purposes of this discussion.[4]

*Corresponding author: Jan Estes Miller, Jan.miller@ssmhealth.com, Saint Anthony's Family Medicine Residency, 608 NW 9th St., OKC, OK 73102. Phone: 405-272-7494, Fax: 405-272-3073.

The reason for posing this question is that simple abscess I&D is an extremely common procedure in both the ED and office setting; yet, packing has the potential to increase cost with supplies, increase pain, and potentially have no effect on outcome.

Summary of the Evidence

In a 2009 study, 48 patients were included in a prospective, randomized controlled trial assessing the effectiveness of packing. All patients were 18 years or older, and the location of the abscess was on the trunk or extremities. Patients excluded from the study included those who were pregnant, those in which abscess size was greater than 5 cm, and those with diabetes and/or in the immunocompromised state. After I&D, the first group underwent packing of the abscess cavity, while the second group had no packing. The primary outcome was the need for intervention as determined by a blinded attending physician at 48 hours. As defined in this article, intervention was defined as "extension of the prior incision, further probing to break up loculations, irrigation, packing the wound, change in initial antibiotics, surgical evaluation or need for a second follow up visit."[4] All patients in this study received trimethoprim-sulfamethoxazole, ibuprofen, and narcotic prescriptions. They were asked to record visual analog scales (VAS) scores twice daily and to return in 48 hours for follow-up. No significant difference was found between the packed (4 of 23 subjects) and non-packed (5 of 25 subjects) groups ($p = 0.72$, relative risk = 1.3, 95% confidence interval (CI) = 0.4 to 4.2) in terms of need for a second intervention at 48 hours. Additionally, patients in the packing group reported statistically significant higher pain scores immediately post-procedure (mean difference = 23.8 mm; $p = 0.014$, 95% CI = 5– 42 mm) and at 48 hours post-procedure (mean difference = 16.4 mm; $p = 0.03$, 95% CI = 1.6 to 31.2 mm), as well as greater use of ibuprofen (mean difference = 0.32, $p = 0.12$, 95% CI = −1.4 to 2.0) and oxycodone/acetaminophen (mean difference = 2.19, $p = 0.03$, 95% CI = .2 to 4.1). One weakness of this study is that at the 48 hour follow-up, the patients did not see the same physician, and thus there was subjectivity as to whether or not an abscess needed re-intervention or not; additionally this study included was limited by small sample size.[4]

A 2012 randomized controlled trial in a pediatric ED compared wound packing to no wound packing following I&D of superficial skin abscesses. Fifty-seven subjects were initially enrolled over 15 months, however only 49 of them completed the trial. Treatment failure was defined as need for major intervention (repeat I&D or re-exploration) or minor intervention (antibiotics change, need for repeat visit or need for packing). The results showed that the difference of treatment failures between the groups was not significant; also, pain scores, healing at 1 week, or recurrence at 1 month did not significantly differ. Limitations of this study include small sample size and people dropping out of the study.[1]

Conclusion

Based on the literature currently available, it appears that packing small abscesses less than 5 cm is not warranted (with the caveat that the immunocompromised and diabetic population are not included). Packing does not decrease the need for re-intervention or follow-up and only serves to increase pain in patients.

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References

1. Kessler DO, Krantz A, Mojica M. Randomized trial comparing wound packing to no wound packing following incision and drainage of superficial skin abscesses in the pediatric emergency department. Ped Emerg Care. 2012; 28:514–7.
2. Kfonfol, R; Downey, KA. Technique of incision and drainage for skin abscess. 2013. (Accessed at http://www.uptodate.com/contents/technique-of-incision-and-drainage-for-skin-abcess?source=search_result&search=technique+of+incision+and+drainage+for&selectedTitle=1%7E150)
3. Schmitz G, Goodwin T, Singer A, et al. The treatment of cutaneous abscesses: comparison of emergency medicine providers practice patterns. West J Emerg Med. 2014; 1:23–8.
4. O'Malley GF, Dominici P, Giraldo P, et al. Routine packing of simple cutaneous abscesses is painful and probably unnecessary. Acad Emerg Med. 2009; 16:470–473. [PubMed: 19388915]