

NaOCl is effective against a broad spectrum of bacteria and dissolves pulp tissue well. Unfortunately if excess amounts are extruded, immediate and pronounced symptoms can occur. It may take months for full recovery to occur and on occasion there have been incidents of permanent damage. This newsletter reviews some of the risk factors for sodium hypochlorite accidents:

- Female > male
- Posterior maxillary teeth
- Necrotic pulp
- Apex extends into maxillary sinus or an apical radiolucency is present (i.e. minimal or no apical back pressure)
- Horizontal or vertical root fracture
- Perforating resorptive defect or iatrogenic perforation
- Inaccurate working length determination
- Larger apical patency (>0.35mm)
- Use of a small diameter needle (i.e. 30 gauge) with an open-ended tip
- Binding of needle on canal wall
- Fast (i.e. forceful extrusion) of copious amounts of NaOCl within 1mm of WL
- Manual agitation with well-fitting GP cone
- Manual instrumentation at WL > rotary instrumentation

Most dentists associate sodium hypochlorite accidents with an open-ended tip bound to canal walls and forceful irrigation. However, these accidents have the potential to occur whenever patency is achieved. Surprisingly the apical pressure need only exceed local venous pressure for significant symptoms occur. These accidents have the potential to occur whenever irrigating canals with sodium hypochlorite.

With this in mind, is it advisable to dilute NaOCl to reduce the risk of an accident? No, as such accidents are rare and even low strength NaOCl (0.01%) is lethal to human cells. Thus, diluting NaOCl may do little to avoid a mishap from developing and yet significantly decrease the effectiveness of irrigation and ultimate success of treatment.

Be aware and irrigate with care. On a bad day bad things can happen even if we do nothing obviously wrong. Next month's newsletter will further explore how to prevent a 'son of bleach' incident from occurring.

Regards,



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*Wow, together we have  
now raised \$18,000!*

Dr. Alex McLean donated the most in March and as such has won four White-caps FC tickets! Thank you Dr. McLean.

Also, thank you to Dr. Tess Koehle and Dr. Sonia Tolusso for donating on Epic Impact Wednesday!

As promised I have matched the dental donations and it has cost me well over seven thousand so far. It would be wonderful if we can reach twenty thousand in donations this year. Let's do it!

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**Office Hours**  
8am to 5pm - Monday to Friday  
Extended hours are also available

The Richmond Endodontic Centre Boardroom is open; it is available for meetings, lectures, and study clubs. Please come by and have a look at our new presentation centre!