March 8, 2004

To: Metro Area Dental Clinics That Have Not Yet Installed an Amalgam Separator and Dental Supply Companies

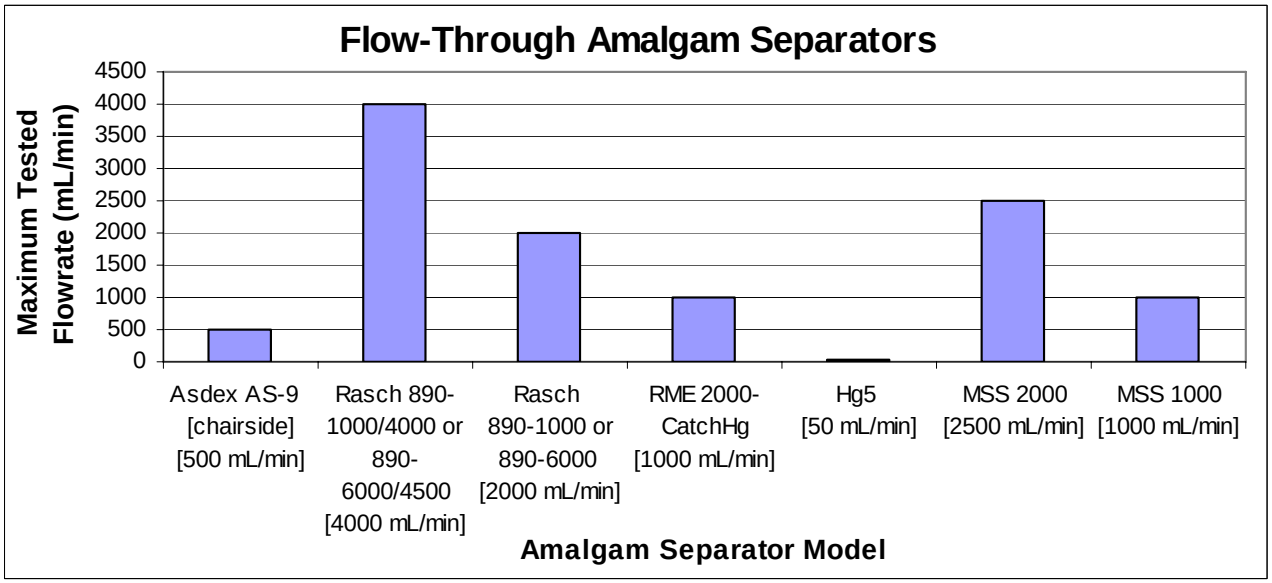
From: Metropolitan Council Environmental Services
Minnesota Dental Association

Re: Proper Operation of Amalgam Separators

The Voluntary Amalgam Recovery Program developed by the Metropolitan Council and the Minnesota Dental Association is experiencing great progress. To date, over 70% of dental clinics in the Metro Area have responded to the call to commit to installing a separator, and 181 clinics have already installed a separator.

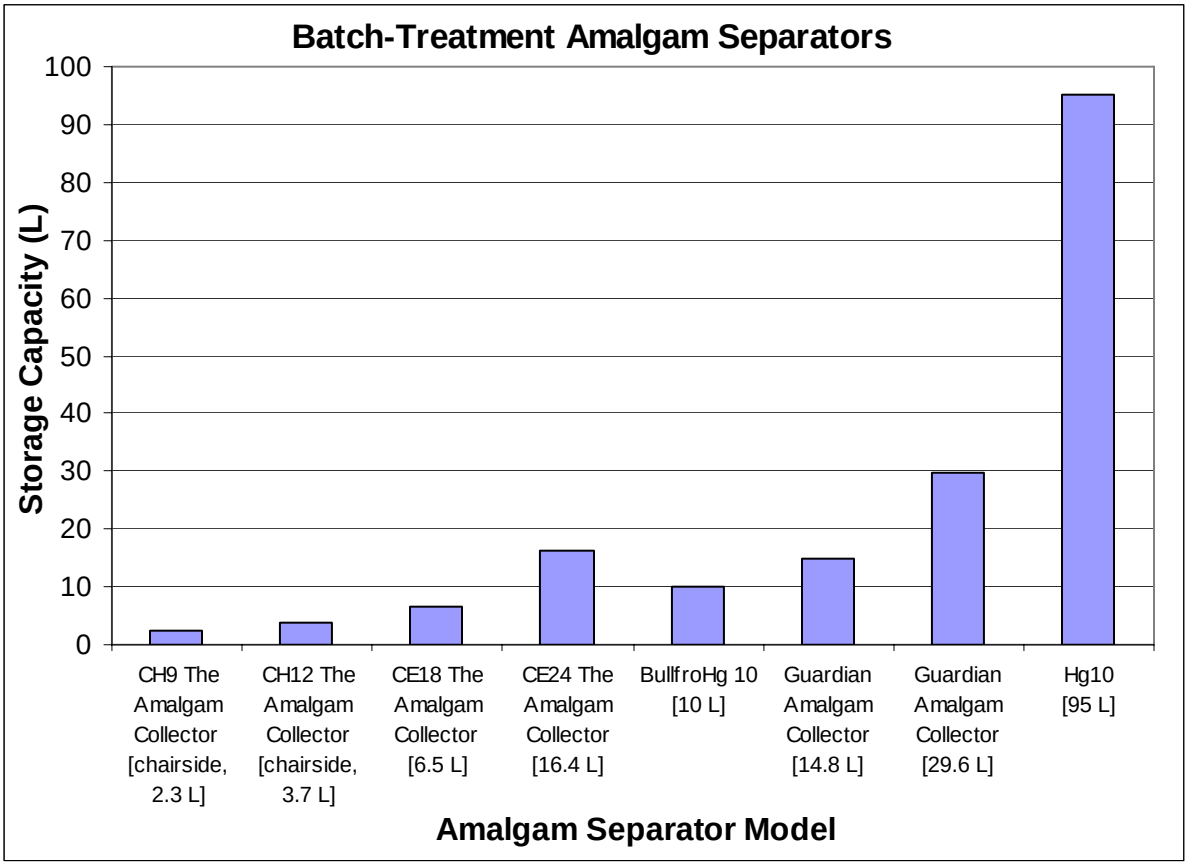
As so many clinics are becoming actively involved in this voluntary program, the Metropolitan Council sees this as an appropriate time to remind participants of the expectations of the program. By participating in the Voluntary Amalgam Recovery Program, dental clinics are given an exemption from the MCES wastewater discharge limit for mercury by agreeing to install and properly operate an amalgam separator in their clinic. Proper operation involves operating the separator according to the manufacturer's specifications, including limiting the flow entering the separator to the tested flowrate for flow-through models and not exceeding the holding tank capacity or decanting rate of batch-treatment models. Each model on the MCES/MDA List of Approved Amalgam Separators has been tested to determine its removal efficiency. Different models were tested at different flowrates, depending on the manufacturer's specified maximum flowrate. Models that removed greater than 99% of amalgam particles were placed on the MCES/MDA list. **In order to be in compliance with the Voluntary Amalgam Recovery Program, a clinic must not put wastewater and flushing solution into the separator at any time with a flowrate greater than the tested flowrate.** ("Flushing solution" includes end-of-the-day flushing.) Excessive flow will cause higher levels of amalgam to pass through the separator or may cause the amalgam removal equipment to be bypassed, undermining the effectiveness of the voluntary program.

The graph below shows the maximum tested flowrate for all of the flow-through models currently on the MCES/MDA list.



Amalgam separators listed at low flowrates may require the addition of a surge tank and a flow restrictor in order to operate properly under realistic clinic conditions. Please talk to your dental supply company about which of the flow-through models already include adequate surge tanks and flow restrictors in their design. We recommend that clinics consider these issues in order to choose a separator that can be operated at its tested flowrate in the normal course of daily clinic operations.

Amalgam separator models that treat the dental wastewater in a batch method are subject to bypassing amalgam-containing wastewater if the storage capacity or decanting rate of the device is exceeded. The graph below shows the storage tank capacity for all of the batch-treatment models currently on the MCES/MDA list. **In order to be in compliance with the Voluntary Amalgam Recovery Program, the volume of wastewater and flushing solution that a clinic puts into the separator between batch treatments must not exceed the storage capacity of the separator, and the separator must not be decanted faster than specified by the manufacturer.** ("Flushing solution" includes end-of-the-day flushing.) Amalgam separators listed with low storage capacities may necessitate the installation of multiple tanks in order to operate properly under realistic clinic conditions.



If you have any questions regarding proper operation of amalgam separators, please contact either Karalynn Marr, with MCES, at 651-602-4727 or Loren Hanson, with the MDA, at 651-646-7454. More information regarding the Voluntary Amalgam Recovery Program can also be found on the Minnesota Dental Association website at www.mndental.org/professionals/amalgam_recovery