

Dental Amalgam Recovery Program

for East Palo Alto, Palo Alto, Los Altos, Los Altos Hills and Mountain View

May 2004

What are the new requirements?

Dental practices that remove and/or place amalgam fillings must use approved amalgam management practices and install an amalgam separator. Such a separator is in addition to chair-side traps and vacuum filters that may already exist. The separator device must be ISO-certified to remove 95% of amalgam particles.

These new regulations are going into effect in the following cities: East Palo Alto, Palo Alto, Los Altos, Los Altos Hills and Mountain View.

Why is this requirement being enacted?

San Francisco Bay is considered impaired due to high levels of mercury in fish, water and sediment. Because of the concerns with mercury in San Francisco Bay, the Regional Water Quality Control Plant (RWQCP) needs to reduce mercury discharges to the environment. Dental wastewater has been identified as a major source of mercury to the RWQCP. The latest discharge permit for the RWQCP mandates that the cities within the RWQCP service area develop an amalgam recovery program to reduce the mercury from this source.

Based on results in other jurisdictions, it is estimated that mercury discharges to the air and water from the RWQCP could decrease 25 to 50 % upon full compliance with the new requirements.



Exempted Facilities

A facility is exempt from this requirement if amalgam fillings are removed or placed 3 or fewer days per year **and** the facility serves the following primary function:

- Orthodontics
- Periodontics
- Oral and maxillofacial surgery
- Radiology
- Oral pathology or oral medicine
- Endodontics
- Prosthodontics



What does a dental facility need to do to comply?

STEP 1 – Comply immediately with required “best management practices” described on page 2.

STEP 2 – Install an approved amalgam separator by March 31, 2005 (see pages 2 and 3).

STEP 3 – Submit documentation that certifies that your office is complying with the requirements.

STEP 4 – Keep training, disposal, and equipment records on-site, available for an inspection.

This document will guide you through the process.

STEP 1 Implement Required “Best Management Practices”

The following amalgam management practices are now mandatory:

1. Do not rinse chairside traps, vacuum screens, or amalgam separator equipment in a sink or other sanitary sewer connection. Recycle chairside traps, vacuum screens, and amalgam separator waste.
2. Train staff in the proper handling and disposal of amalgam materials and fixer-containing solutions. Training records shall be available for inspection.
3. Do not use bleach or other chlorine-containing

disinfectants to clean the vacuum line system. Bleach-containing disinfectants have been shown to dissolve mercury from amalgam. The line cleansers in the box at right are bleach-free, and therefore meet this requirement.



4. Do not use bulk liquid mercury; only precapsulated dental amalgam is permitted.
5. Store amalgam waste in accordance with recycler or hauler instructions.

If you have questions about any of these practices, please contact us. In addition, the American Dental Association’s list of best management practices is on our website.

Some Bleach-Free Line Cleansers

E-Vac	ProE-Vac	Stay-Clean
EZ-Zyme	Purevac	Turbo Vac Line Flush
Green and Clean	Sani-Treet Plus	VAC-U-EZ

Disclaimer: This list may be incomplete; inclusion on this list does not constitute an endorsement of products or companies.

STEP 2 Install Approved Amalgam Separator by March 31, 2005

Amalgam separators employ filtration, settlement, or ion exchange to remove amalgam and its metal constituents from the office vacuum system before it discharges to the sewer. While chairside traps capture the largest waste amalgam particles, amalgam separators focus on removing the remaining, much smaller particles. Also, in the case of ion exchange units, dissolved or ionic silver and mercury is removed.

Separators should either be installed in the vacuum line at each chair or in a central location that receives vacuum line wastewater from all chairs. Dental practices that are served by a shared vacuum system may elect to have one amalgam separator installed at the central location.

Separators must be maintained according to the manufacturer’s recommendation and disposal of amalgam wastes must be in accordance with applicable regulations.

Approved Amalgam Separators

Approved separators are those that meet the International Organization for Standardization’s standard ISO 11143 and are certified by the American Dental Association or other qualified testing laboratory to remove at least 95% of amalgam. A list of recommended amalgam separators is available at the following web site:
www.cityofpaloalto.org/cleanbay/dental.html

CHOOSING THE RIGHT

Vacuum System Compatibility

Does your office use a wet vacuum or a dry vacuum system? Does the practice want individual chair-side separators or a central unit that will handle all the chairs? Some amalgam separators are approved only for chair-side use or for use with a particular type of vacuum pump.

If a practice shares a central vacuum with other dental practices, make sure the selected separator will be compatible with the central vacuum. Alternatively, a central separator may be more practical to serve all of the practices in the building.

STEP 3 Submission of Compliance Forms

1) "Self-Certification of Amalgam Management Requirements"

This form indicates compliance with best management practices and presents the dental practice's plan for amalgam separator installation. This form was mailed to dentists in May 2004. Submission of the form is required by June 15, 2004. Additional copies are available at our web site (see back of brochure).

2) "Self-Certification of Amalgam Separator Installation"

This form must be submitted by the dental practice, with appropriate attachments, within 30 days of installation of the amalgam separator. The form will be mailed to dental practices in the summer and fall of 2004. It is also available at our website.



STEP 4 Record Keeping

Dental practices must keep the following information on site for 3 years:

- Staff training records
- Separator installation and maintenance records
- Amalgam waste disposal records

All records must be provided to municipal inspectors upon request.

AMALGAM SEPARATOR

The type of amalgam separator you choose depends on several factors. Vendors will also be able to suggest units that will best serve your office configuration.

Equipment Size and Location

How much physical space is available for the equipment? Do you want to install an amalgam separator at individual chairs, or in one central location that will serve the entire office?

Choose an amalgam separator that easily handles your peak flow, such as when the vacuum system is flushed at the end of the day. Consider both current and future capacity. Also, if chair-side cuspidors connect to your vacuum lines, include this volume when sizing a separator system. If chairs are currently used for hygiene work, but may be used for general dentistry in the future, vacuum lines from these chairs should be routed to the separator. Some separators will need 120V AC power supply.

Maintenance

How often does one need to dispose of accumulated waste sludge? Is the sludge collected in a canister that can be replaced or in one that must be emptied? Does the vendor provide regular maintenance or is it the responsibility of the practice? If the vendor maintains the unit, find out the following: who the vendor contracts with to haul the waste away, where the contractor sends it, and what waste documentation the vendor provides as part of the service fee.

Are dental personnel available to maintain the equipment? Some separators require more staff time than others. For example, daily decanting may be necessary with a batch settling system. If no one is available for this task, then a separator that uses a different technology may be a better solution.

Costs

Costs will depend on the size of the practice and will include the cost of purchasing, installing, and maintaining the amalgam separator unit, and for proper removal and disposal of amalgam wastes collected. For the average practice, approved amalgam separators can range in purchase price from \$150 to \$2000; installation can range from \$50 to \$1000; annual maintenance can range from \$250 to \$600 (including the cost of waste disposal).

Disclaimer: Costs cited here are only estimated, based on review of vendor information, and are subject to change.



FAQs

Frequently Asked Questions

To whom does the new ordinance apply?

It applies to dental practices that are located in the RWQCP partner municipalities of East Palo Alto, Los Altos, Los Altos Hills, Mountain View, and Palo Alto.

What if the landlord or a separate dental practice oversees the vacuum system?

Each dental practice is legally responsible for ensuring that an approved amalgam separator has been installed for a shared vacuum system. Communicate with the other dental practices and building owner and determine who will be responsible for installation and maintenance. Each practice must complete Compliance Form #1 and indicate the responsible party. The responsible party (e.g., landlord or dental practice) must complete Compliance Form #2 within 30 days of completing the installation.

Are chairside traps and vacuum filters suitable to meet the requirement?

No, chairside traps and vacuum filters are independent devices that do not meet the amalgam removal requirement.

What if I already have an amalgam separator?

A dental practice may apply for a variance to the ISO-certified separator requirement, based on an existing amalgam separator device (see variance option on Form #1). Variances are limited to those described in the ordinance. If the request is denied, the dental practice will be required to install an ISO-certified device.

How does the RWQCP know the mercury coming into its wastewater treatment plant is from dental practices?

Many dentists use amalgam, which contains approximately 50% mercury. Studies by the ADA and others have shown that some of the amalgam mixed for placement as well as almost all of the amalgam from filling removals ends up as waste. With proper management, much of this waste will be prevented from being discharged to the sanitary sewer.

Local studies have shown that an estimated 30 grams of mercury per dentist are discharged to the sanitary sewer each year. This amount is subsequent to chairside traps and vacuum screens within the dental office. It also includes amalgam washed down from the sink areas. The RWQCP's studies show about 50–60% of its mercury source is from dental offices.

In the United States, dentists are the third largest users of mercury. In 1997, 40 metric tons of mercury were used for dental purposes.

Why can't wastewater treatment plants just remove the mercury?

Wastewater treatment plants, including the RWQCP, are designed to treat wastewater containing conventional pollutants such as human waste and food waste. Mercury is not sufficiently removed by conventional treatment. As a result, mercury ends up in the wastewater discharged to the San Francisco Bay or in biosolids that are incinerated or used for land application and landfill cover.

For more information : www.cityofpaloalto.org/cleanbay/dental.html



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**Regional
Water Quality
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