

Implementing a Quality Amalgam Recovery Program for Your Practice

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A Compliance Guide From



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**Quality Amalgam
Recovery Program**
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Table of Contents

Introduction5

How Dental Amalgam Enters our Food Supply6

How to be Compliant with Amalgam Waste Requirements8

ADA Best Management Practices for Amalgam Waste9

This is what a Quality Amalgam Recovery Program Looks Like 10

Amalgam Separator Technology 12

Success with Separators 13

Things to consider when selecting an Amalgam Separator..... 14

Amalgam Waste Recovery Containers 15

Installing and Maintaining the Separator 16

Chairside Traps and Pump Filters 18

Use a Quality Management System 19

Conclusion.....20

Leading Amalgam Separator Comparison21

Tying it all Together with OnTraQ Compliance Manager22

References.....23

Notes.....24

About the Author.....28

Introduction

The time has come to be environmentally responsible with your amalgam waste.



The current EPA Dental Amalgam Rule announcement necessitates that we examine our relationship with this substance and ensure we are using and disposing of it properly. While there are questions about the appropriateness of dental amalgam (which is composed of 50% mercury), scientific evidence does not indicate amalgam is dangerous when used as filling material. In fact, as recently as 2009 the U.S. Food and Drug Administration reaffirmed its position that amalgam is a safe and effective restoration option for dental patients⁽¹⁾. We can all be comfortable that the use of amalgam in our practices is efficacious for our patients’ health. This, however, only addresses a part of the life cycle of dental amalgam.

We as dental professionals need to pay attention to is the regulatory environment that requires remediation of the inadvertent discharge of dental amalgam into wastewater systems. Scientific research has revealed that this results in mercury pollution of our waterways and food supply. In a time when global consensus is difficult to find on any topic, mercury has been singled out by the world community as a “global threat to human and environmental health” due to its ability to cause central nervous system damage, blindness, a form of Cerebral Palsy, intellectual disabilities and deafness in humans (particularly infants and small children)^(2,3). Dental amalgam has been identified as one of the contributors of mercury pollution and the federal government and world community are asking us to act.

Fortunately, dental amalgam is one of the most preventable sources of mercury pollution and there are simple solutions that you can use in your practice to stay compliant and be environmentally responsible.

This HealthFirst compliance guide will outline the technology and protocols that exist today to create an effective Amalgam Recovery Program for your practice to comply with 40 CFR Part 441, DENTAL OFFICE POINT SOURCE CATEGORY.

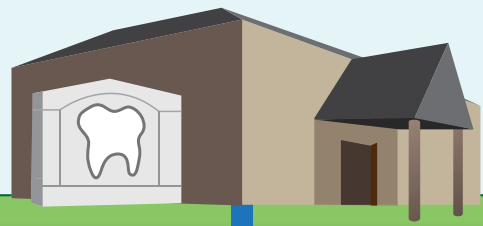
Did You Know?

The EPA estimates that approximately 50% of mercury entering local wastewater treatment plants each year comes from dental amalgam waste.⁴

How Dental Amalgam Enters our Food Supply

Amalgam Waste:

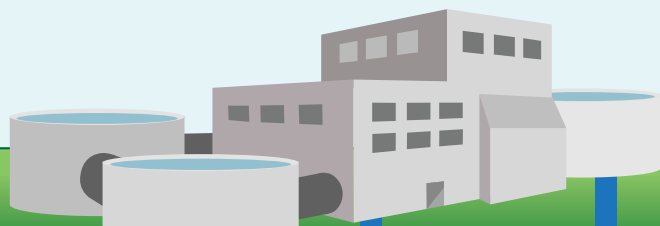
Wastewater containing amalgam particles from dental practices travels from the service drain into the main sewer line.



Dental Office

Water Treatment:

Wastewater arrives at a treatment plant and is processed, but treatment plants are unable to remove 100% of the amalgam.

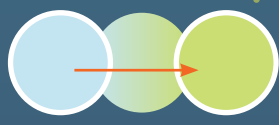


Wastewater Treatment Plant

Inorganic Mercury Becomes Methylmercury:

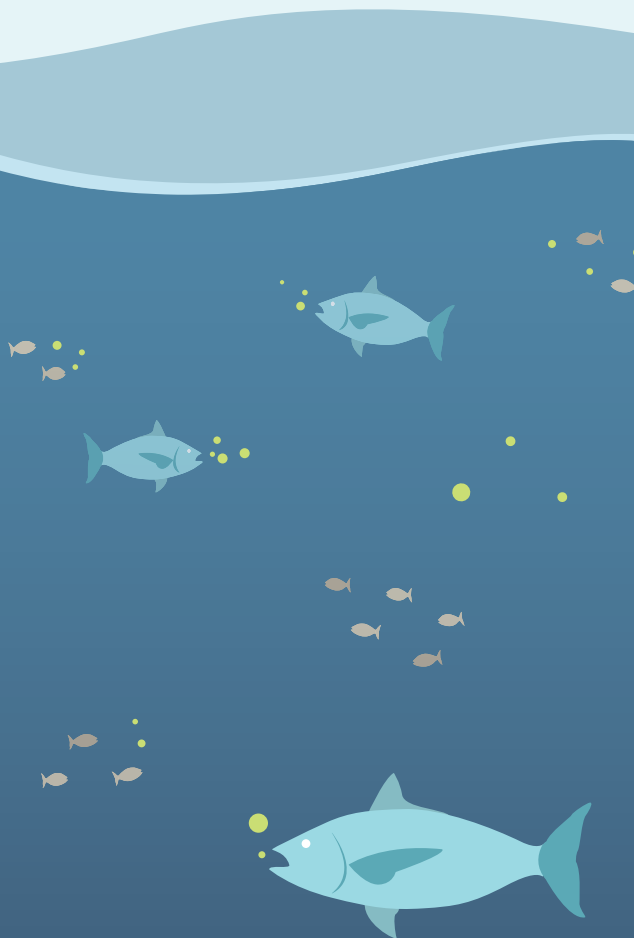
Once the processed water reaches an aquatic environment, the mercury in amalgam is converted into the neurotoxin methylmercury through naturally-occurring microbial processes.

Some of the mercury in dental amalgam converts into methylmercury



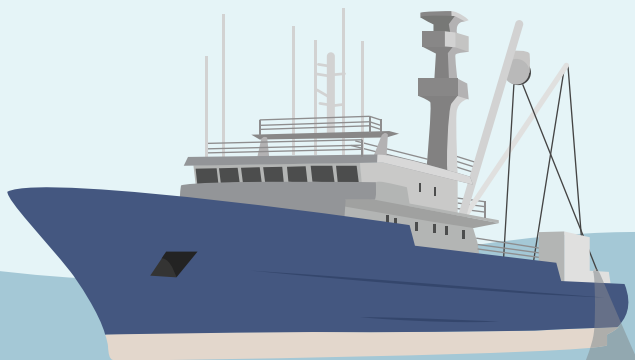
Methylmercury Bioaccumulates in the ocean:

Methylmercury is easily ingested by many species of small fish, which are in turn eaten by larger fish, such as tuna.



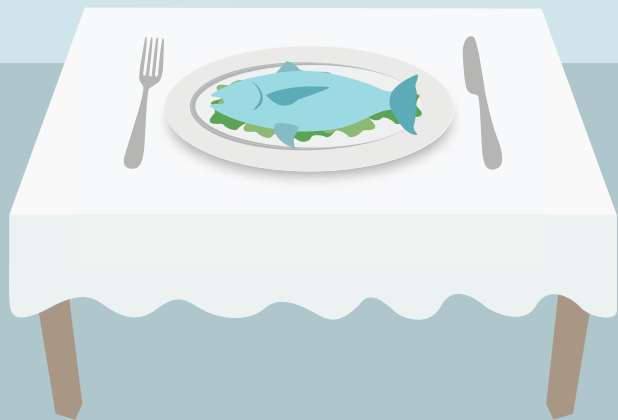
Impact on the Food Chain:

The contaminated fish are then harvested for human consumption.



Human Exposure:

Contamination of the food supply exposes us all directly to incremental mercury toxicity, with devastating effects on health and well-being.



How to be Compliant with Amalgam Waste Requirements

An amalgam recovery program is the best way to prevent mercury pollution and it may be mandated in your state or municipality.



An effective and environmentally responsible amalgam recovery plan has 4 key components:

- 1. Amalgam Separator
- 2. Amalgam Waste Recovery Container
- 3. Chairside Traps and Pump Filters
- 4. Compliance Management Software

ADA Best Management Practices for Amalgam Waste

Do	Don't
Do use pre-capsulated alloys and stock a variety of capsule sizes.	Don't use bulk mercury.
Do recycle disposable amalgam capsules.	Don't put used disposable amalgam capsules in biohazard containers, infectious waste containers (red bags) or regular garbage.
Do salvage, store and recycle non-contact amalgam (scrap amalgam).	Don't put non-contact amalgam waste in biohazard containers, infectious waste containers (red bags) or regular garbage.
Do salvage (contact) amalgam pieces from restorations after removal and recycle the amalgam waste.	Don't rinse devices containing amalgam over drains or sinks.
Do use chairside traps, vacuum pump filters and amalgam separators to retain amalgam and recycle their contents.	Don't dispose of extracted teeth that contain amalgam restorations in biohazard containers, infectious waste containers (red bags), sharps containers or regular garbage.
Do recycle teeth that contain amalgam restorations. (Note: Ask your recycler whether or not extracted teeth with amalgam restorations require disinfection).	Don't flush amalgam waste down the drain or toilet.
Do use line cleaners that minimize dissolution of amalgam.	Don't use bleach or chlorine-containing cleaners to flush wastewater lines.

American Dental Association. *Best Management Practices for Amalgam Waste*. October 2007.

This is what a Quality Amalgam Recovery Program Looks Like

3 Vacuum Pump Filter:
Replace monthly (or sooner) as prescribed by manufacturer. Dispose of used filter in an amalgam waste recovery container.

1 Amalgam Separator:
Follow manufacturer's maintenance schedule and recycle collector unit as prescribed.

2 Approved for Disposal in Amalgam Waste Recovery Container:

- chairside traps
- vacuum pump filters
- spent amalgam capsules
- contact/non-contact amalgam
- teeth with amalgam (disinfected)

4 Compliance Management Software:
Utilize task management software to ensure consistent implementation of your amalgam recovery program.

3 Chairside Traps:
Change weekly. Never rinse over the sink. Dispose of traps in an amalgam waste recovery container.

Amalgam Separator Technology

Amalgam separators are the anchor of any quality amalgam recovery program.

Quality amalgam separators remove 95% or more of amalgam from dental office wastewater before discharge to the local water treatment system and are a key component of your amalgam recovery program. They work by collecting small waste particles from the evacuation line that are too small to be captured by the chairside traps and vacuum pump filters.

Separators do not separate mercury from amalgam. They simply capture amalgam particles in the separator’s collector, which allows for recycling.



Sedimentation Recommended

Most separators use one of these types of technology: sedimentation, centrifugation, and filtration. We recommend sedimentation separators, as this method is one of the most effective in reducing particulate mercury contents in wastewater.

Success with Separators

Studies have shown that the simple technology used in amalgam separators is highly effective at reducing dental amalgam deposited in the environment.

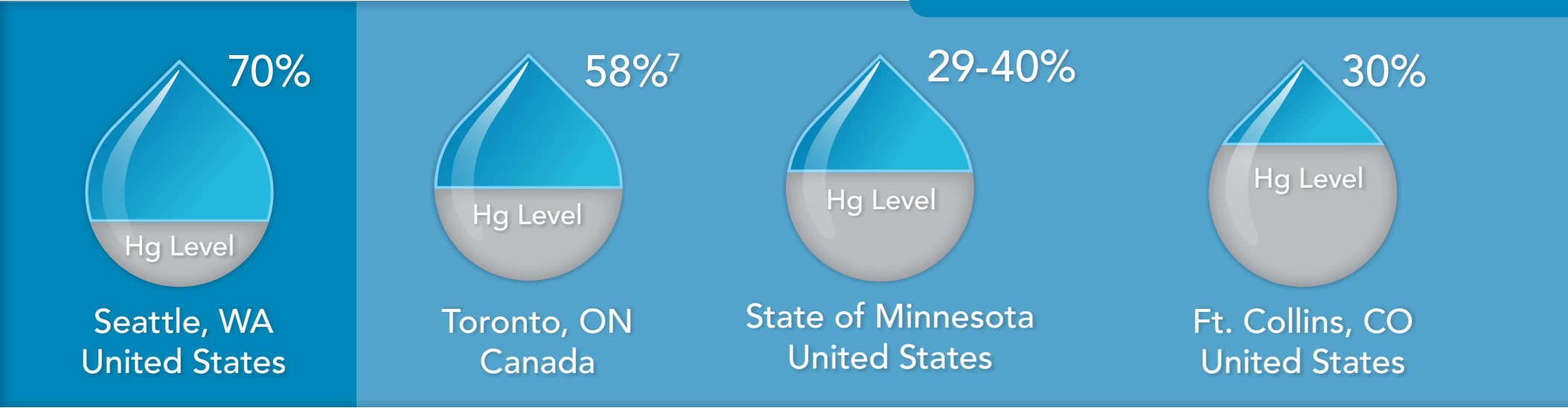
In fact, jurisdictions that have required dental practices to install separators have seen dramatic decreases in mercury levels.



Mercury Removal

The locations below experienced dramatic reductions in mercury levels after implementing amalgam separator programs for dental practices:

Total Reductions:



Things to consider when selecting an Amalgam Separator

All amalgam separators are not created equal.

There are several key factors to consider when purchasing a separator for your practice:

1. **Guarantee of minimum annual maintenance** – the exchange of collector units can be extremely expensive. Select a service provider that guarantees only one annual recycle change per year, and has a track record of keeping that promise to its customers.
2. **Durability** - choose an amalgam separator that is constructed of highly durable material, such as stainless steel, which can withstand constant use.
3. **Monitoring Program** - Some separators require weekly monitoring by staff. Select a manufacturer that provides a monitoring service as part of your purchase.
4. **Consumer Protection (warranties)** – a company's confidence in their product is indicated by the length of the warranty they provide. Carefully examine the warranty policy provided by the manufacturer of the separators you are evaluating.
5. **Green Solution** – some amalgam separator systems go into a landfill after they leave your office, discharging mercury back into the environment. Choose a manufacturer that refurbishes your system and properly disposes of amalgam waste.
6. **Certification** – determine if the separator's ISO ADAANSI 11143-2008 compliance is certified by an third-party lab/accredited body, such as TUV NORD.

Don't Fool Yourself

Many separators are made of plastic and the **entire unit** must be replaced periodically. If the used separators go into landfill, they are not keeping mercury out of the environment.

Consider

Some separators must be decanted daily and some require you to replace the entire unit every 3 – 18 months.

Installing and Maintaining the Separator

The proper installation and maintenance of an amalgam separator is a crucial step toward complying with wastewater regulations.

Amalgam separators can be easily installed by dental technicians, plumbers or by the office staff. Check with your local regulator to find out if there are any installation specifications in your area.

Separators should either be installed in line with the vacuum system at each chair or in a central location that receives vacuum line wastewater from all chairs in the practice.

Separator Placement

Did you know that most amalgam separators are installed in line between the dental chair and central vacuum? There are also customized installation solutions available for unique operatory configurations, such as large institutions and mobile offices.

Ongoing Maintenance

When selecting a separator for your practice, choose one that doesn't require much time and attention from your staff. A low-maintenance separator will save your practice time that is better spent elsewhere.

If handled, installed and maintained properly, a high quality amalgam separator will last for the lifetime of your practice.



Amalgam Waste Recovery Containers

Use approved containers for the recovery of contact and non-contact amalgam materials.

Contact amalgam waste is found in the cuspidor, evacuation lines, amalgam separator container, chairside traps and filters.

Contact amalgam waste includes:

- Amalgam removed during suctioning, including old amalgam filling material.
- Loose amalgam rinsed out by the patient.
- Amalgam present in extracted teeth.

Non-contact amalgam waste includes:

- Dry scrap amalgam left over after restorations are completed.
- Broken/used amalgam capsules.

Recovering Contact Amalgam Waste:

- All contact amalgam waste and other materials that come in contact with amalgam (such as gloves, gauze, paper towels) should be placed in an airtight sealed container designated for amalgam waste.
- Do not flush or rinse amalgam traps and filters into sinks or toilets.
- Extracted teeth containing amalgam should be disposed of as contact amalgam waste and may first be disinfected (do not use chlorine or bleach-based disinfectant).



- Do not dispose of amalgam waste from amalgam traps and filters, or from amalgam separator containers, into the trash.

Recovering Non-Contact Amalgam Waste:

- Dry scrap dental amalgam should also be disposed of in a container designated for amalgam waste.
- In order to fully comply with the most stringent of State regulations, empty amalgam capsules should be disposed of in the same manner as dry scrap amalgam.

Do not dispose of extracted teeth with amalgams in biohazardous waste containers, with medical 'red bag' waste or in the general trash. Use a scrap amalgam bucket with a convenient mail-back recycling feature.

Chairside Traps and Pump Filters

An essential component of amalgam recovery that may be overlooked.

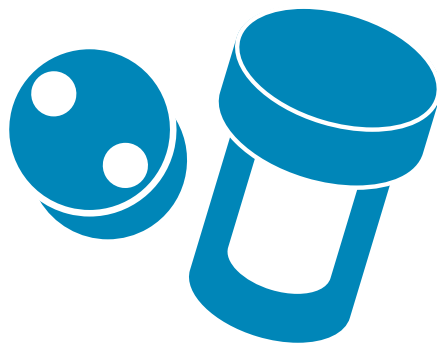
Chairside traps and vacuum pump filters are an important part of HealthFirst’s Quality Amalgam Recovery Program, because they capture the larger amalgam waste particles that would otherwise flow straight through the office vacuum system and into the wastewater. It is recommended to use disposable chairside traps and suction pump filters and replace them at recommended scheduled intervals.

- Used traps and filters contain contact amalgam waste particles and must be placed in an approved amalgam waste recovery containers.
- Be sure to wear gloves while changing out the traps and filters to ensure that your hands do not come in contact with the amalgam particles
- All items that come in contact with the traps and filters during replacement (such as gloves and disposable towels) should also be placed in the amalgam waste recovery containers.

Disposable Traps and Filters are Recommended.

It is recommended that you replace disposable chairside traps at least once a week and pump filters at least once a month to ensure proper collection of amalgam particles (not to mention to ensure that there is no loss of suction in your system).

Never rinse chairside traps and filters over the sink. That flushes amalgam mercury directly into the water system.



Use a Quality Management System

A QMS will ensure everything gets done on time, and done correctly.

A dental practice should use a software-based quality management system to monitor and measure its performance of all amalgam recovery tasks it must complete in order to stay compliant.

Ensure that your software can:



Assign tasks to team members in the office, and provide mechanisms to monitor and measure performance to your amalgam recovery plan.



Thoroughly document amalgam recovery activity done in the office.

Have a compliance champion in your office.

It’s a best practice to specifically identify and assign someone in your office to the role of compliance administrator. This person would be responsible for monitoring your compliance obligations.



Implementing a Quality Amalgam Recovery Program in your practice is vital to meeting your compliance obligations and being an environmentally responsible dental practitioner. Patients and Regulators care about how you dispose of dental amalgam – you should too.



Conclusion



Using this guide, you can implement a consistent and effective Quality Amalgam Recovery Program and both mitigate compliance risk and protect the environment.

If you'd like more information about our Quality Amalgam Recovery Program for ADA Members, please call 888-963-6787 and speak with a HealthFirst representative.

Leading Amalgam Separator Comparison

	Warranty	Pollution Fine Indemnification Protection	Once-a-Year Collector Exchange Guarantee	Ongoing Separator Monitoring Program	Free Compliance Management Software	ADA Business Resources SM Endorsed
Rebec 400 Series	Lifetime ¹	Yes	Yes	Yes	Yes	Yes
Other Leading Brand 1	Up to 2 years	No	No	No	No	No
Other Leading Brand 2	Up to 1 year	No	No	No	No	No

¹ - Rebec 400 warranty is available exclusively to ADA Members.

ADA Business Resources conducted a rigorous evaluation of the leading amalgam separators on the market and found Rebec separators offered as a part of HealthFirst's Quality Amalgam Recovery Program provide the best value for ADA Members.

- **Lifetime Warranty** – the *only* amalgam separator manufacturer standing by their product over its lifetime.
- **Pollution Fine Indemnification** – if HealthFirst does not send your annual collector recycle in time and you fail a water pollution test due to higher than allowable mercury levels, the company will pay up to \$500 of your fine.
- **1 Recycle Per Year Guarantee** – HealthFirst guarantees you will only need one collector recycle per year. No hidden costs or surprises.
- **Ongoing Separator Monitoring Program** – HealthFirst monitors the amount of waste material in the collector that is sent back each year to verify your output does not exceed the capacity of your amalgam separator. This ensures compliance and peace of mind.
- **Free Compliance Management Software** – the OnTraQ Compliance Manager is a free, value-added service, which allows you to assign tasks to your office staff and track their performance against your Amalgam Recovery Program. It also digitally archives your compliance documentation, creating an easily accessible paper trail to demonstrate your environmental responsibility to patients and for inspections.

Did You Know?

The Environmental Protection Agency (EPA) requires amalgam separators to have removal efficiency rates at least 95%, but some localities require even higher? Check with your local water authority to find out what the requirement is for your practice.

Tying it all Together with OnTraq Compliance Manager

Having a software solution to bring powerful oversight into your amalgam waste stream is critical to success.

The OnTraq Compliance Manager allows the practice to:

- Create an effective amalgam recovery program.
- Assign team members tasks associated with amalgam recovery compliance (such as changing the traps and filters on a scheduled basis).
- Confirm completion of these tasks.
- Archive and access all important compliance documentation (such as certificates of recovery and destruction).



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Notes

About the Author



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HealthFirst

Compliance Guides for the Quality Practice



HealthFirst is pleased to bring you *Compliance Guides for the Quality Practice*, a series of resources for today's dental practice that provides practical tips and education on topics including:

- Emergency Response
- Infection Prevention
- Environmental
- Radiation Minimization

Dr. Donald Cohen, a trusted figure and key opinion leader, has been a licensed and practicing dentist for over 30 years. Additionally, Dr. Cohen has 20 years of teaching experience at Columbia University SDOS, and 20 years as an Attending Dentist at Columbia Presbyterian Hospital in New York City.

Dr. Cohen is former President of the New York State Society of Dentistry for Children, and currently acts as Director of Compliance for Health Compliance Team, Inc., a national compliance company that delivers numerous compliance seminars and total on-site solutions to dental practices.

With his many years of experience in the field and in the classroom, "Dr. Don" is an expert in the areas of dental compliance, regulations, and best practices.

