TOM MANGOLD (BBC): This is a phial of mercury, a liquid metal and one of the most poisonous substances known to man. Most people have metal or amalgam fillings in their mouth and half the metal in each filling is made from this stuff. For years dentists have believed that these fillings were safe, but now we know that everytime we chew, brush, or grind our teeth, some of the mercury is released as a vapor and we inhale it.

Panorama has uncovered a growing body of scientific evidence which shows ominous links between the mercury from our fillings and serious illnesses. We also reveal an uncomfortable background of complacency and ignorance within the British Dental establishment and apathy in government which is helping mask the truth about the dangers of the poison in your mouth.

(Vision shows men wearing protective suits)
These men are handling old amalgam tooth fillings for recycling. Once removed, what had lived inside our mouths for years is suddenly treated as the dangerous poison it's always been. Mercury is so toxic that at certain levels it drives people mad. But even the tiniest amounts are regarded as unsafe.

At lower levels - no one quite knows how low they are - the metal attacks the brain and the central nervous system producing symptoms which include nervousness and irritability, lack of concentration, loss of memory and self-confidence, mood swings, anxiety, depression, fatigue and insomnia.

Because there can be other causes for these symptoms, no one has associated dental amalgam with them. But suddenly the familiar quicksilver of our youth is beginning to look dirty.

(Vision cuts to interview extracts)

Dr. BOYD HALEY (University of Kentucky): If you have something that's been put in your mouth that you can't dispose of in a waste basket without breaking environmental protection laws, there's no point in keeping it around. There's no point in taking that type of risk. There's no point in exposing people to any level of mercury toxicity if you don't have to.
JOHN HUNT (Chief Executive, British Dental Association): The epidemiological evidence thus far and every other bit of evidence that we've seen, not just ourselves but the scientific experts and the toxicologists, points to amalgam as being as safe as any other material.

Dr. MURRAY VIMY (University of Calgary): Mercury is a poison; there's no safe level. The World Health Organization has determined that. And so how can we continue to implant that into people's teeth?

MANGOLD (BBC): Dentists have been using amalgam for over a century, convinced of its safety. The mercury is used to bond silver and other metals together to make a cheap, efficient, and durable filling. Yet no one has proved that when the mercury goes into our bodies that it is safe. The dentists have always assumed it was safe because there were no identifiable side effects. But dentists may not have been the right people to look for the subtle but dangerous symptoms of low level mercury poisoning. Supposing there have been side effects but of the kind that only doctors are qualified to recognize. Has the evidence always been there?

Tonight we examine the new scientific clues that place amalgam firmly in the dock, on suspicion of causing harm to humans. It's a case where both sides - believers and non-believers - are fundamentally divided on even the most basic issues.

Amalgam's most vehement support comes from the British Dental Association, the professional body to which most dentists belong. They run a service which includes giving their members an up to date advisory service. John Hunt is the Chief Executive and Peter Gordon the Scientific Advisor. They do no original work but review others' studies.  

(Vision cuts to interview extract)
TOM MANGOLD (BBC): Is amalgam safe?

PETER GORDON (Science Adviser, BDA): In a word, yes.

MANGOLD (BBC): No doubt about that at all?

GORDON: No doubt about it at all.

MANGOLD (BBC): Is there anybody it's not safe for?

GORDON: There may be a small percentage of the population with an allergy to amalgam, but it really is very, very small. In fact, less than 50 worldwide in the last hundred years.

MANGOLD (BBC): So it must be 99.9% safe?

GORDON: Yes, in our opinion.

(Vision cuts away from interview)

VOICE OVER: Dr. Lars Friberg spoke recently at a German amalgam conference. He's the world's leading authority on mercury poisoning and was chief advisor to the World Health Organization on mercury safety. Until now he has remained studiously neutral in the mercury debate.

(Vision cuts to interview extract)

MANGOLD (BBC): Dr Friberg, is there a safe level of mercury?
Dr. LARS FRIBERG (Consultant, World Health Organization): No, there is no safe level of mercury. And no one has actually shown that there is a safe level of mercury. And, I would say, mercury is a very toxic substance.

MANGOLD (BBC): So there's no amount, in your opinion, that should really go into the body?

FRIBERG: I would like to avoid it as far as possible.

MANGOLD (BBC): If there is no safe level of mercury, why does the British Dental Association say there is one?

FRIBERG: I don't know but I think they are wrong.

(Vision cuts away from interview)

VOICE OVER: The first evidence of mercury's journey into the body, came ten years ago. Dentists had always assumed that mercury stayed inert in the filling. But scientists discovered that the gleaming new amalgam inside a polished tooth didn't stay put. It leaked as mercury vapor and entered the blood stream.

This is an electrical microscope picture of a ten year old amalgam filling. Those black holes are where the mercury used to be. In this filling, some 40 percent has evaporated in only ten years. But where did it go and could it cause harm to humans?
The challenge was taken up here in western Canada by two men from different disciplines. Their cooperation has produced scientific revelations which are so damning that they may yet bring about the end of the very use of dental amalgam. Fritz Lorscheider and Murray Vimy set about clearing the smoke surrounding the amalgam mystery. Vimy, the academic dentist and World Health Organization consultant, and Lorscheider, Professor of Medical Physiology at the University of Calgary, pioneered a simple yet dramatic experiment to show not only where the missing mercury went but also that it did do harm when it got there. Their work shattered the comfortable illusion that mercury in amalgams was stable and safe. They took a sheep and put fillings in it's teeth containing radioactive mercury which would show up as black on X-rays.

(Vision cuts to footage of Dr Vimy looking at an x-ray)

Dr MURRAY VIMY: Here's the outline of the sheep, going all the way around, and this is the jawbone of the sheep. Here are the two stomachs. This area is the liver. And here are the two kidneys. And this is the transverse colon. So the mercury from the fillings, which was slightly radioactive, migrated to these tissues. In fact, it was in all the tissues. Now the dental profession said that well it's a sheep, it chews too much, they grind a lot, they regurgitate their food, it's not a good example.

VOICE OVER: So they repeated the work with monkeys and found again the mercury had spread. Furthermore, they discovered that even small amounts of mercury from amalgams damaged the kidneys of the sheep.

(Vision cuts to interview extract)

MANGOLD (BBC): When you look at all the current scientific evidence, what do you think it's trying to tell you?
VIMY: It tells me very succinctly that there is a chronic low dose exposure to a toxic heavy metal, that 80 to 85% of the industrialized world has this metal implanted in their teeth, and it's a situation of timed release poisoning.

(Vision cuts away from interview extract)

MANGOLD (BBC): But animal studies were one thing. What science now had to prove was that mercury from fillings in human beings was a major source of the body's intake of the metal, and that this mercury not only accumulated but stayed inside the body's most sensitive organs.

Well, they cracked that one here at the University of Arizona.

The University's Department of Molecular and Cellular Biology is headed by the world-renowned Professor Vasken Aposhian. He used these tablets to draw out mercury in the body's sensitive organs. Students volunteered to take part.

For over a century, dentists believed that mercury from fillings didn't even enter the body. But Aposhian's results published two years ago were an astonishing rebuttal. They showed that no less than two-thirds of the mercury in the body came from tooth fillings.

(Vision cuts to interview extract)

Dr. VASKEN APOSHIAN (University of Arizona): I'm worried that the amount of mercury coming from dental amalgams that we're putting in the mouths of young children today, might be harmful to them as far as affecting their learning abilities, their performance abilities, and I would hate to think that
twenty years from now we will have hurt some of these children when we could have prevented it by proper scientific research and that is what we must do now.

VOICE OVER: The professor simply doesn't know if enough mercury from fillings enters the body to do harm, but nor is he waiting to find out.

APOSCHIAN: I'd hate to see amalgams in the mouths of my grandchildren, who are 5 years and 8 years of age now, when there are better materials, and I think there are better materials, now available.

MANGOLD (BBC): And safer?

APOSCHIAN: And safer.

(Vision cuts to BDA interview)

MANGOLD (BBC): Are you aware of the work of Professor Aposhian, professor of Molecular and Cellular Biology at the University of Arizona?

PETER GORDON (Science Advisor, British Dental Association): No.

MANGOLD (BBC): Not at all?

GORDON: (Shakes head)

MANGOLD (BBC): Did you know that he has shown that two-thirds of the mercury excreted from the human body comes from dental amalgams?

JOHN HUNT (Chief Executive, British Dental Association): No, I didn't know that.

MANGOLD (BBC): Isn't this, gentleman, a kind of document that ought to be on your desks?

HUNT: Yes, I'm surprised it isn't in the bundle that we have got, but nevertheless I think that if it were, and if you'd produced it, we would have had a look at it and asked our experts to have a look at it, and
review the scientific methodology and the interpretation of the findings. We need to have a look at these papers and certainly, routinely, we do. This one we appeared to have missed.

(Vision cuts away from interview)

MANGOLD (BBC): Now, even more ominous evidence has been uncovered. This time about the dangers of amalgam's mercury in the most vulnerable and sensitive organ of all.

It was a dentist in Los Angeles who first discovered from his examination of bodies here in the mortuary that mercury from dental amalgam travels to the brain, and the more fillings the more it accumulates.

Dr. David Eggleston is a dentist in California. His clients include Tom Cruise. His less glamorous work recently took him to the county morgue to investigate the relationship between dental mercury and the brains of the dead. Eggleston spent months studying the records and discovered that mercury from amalgams not only accumulates in the brain, but that some of this poison stays in the skull for as long as 40 years.

(Vision cuts to new interview extract)

Dr. DAVID EGGLESTON (University of Southern California): I think there is legitimate concern regarding the mercury issue in dentistry. Mercury does release from the silver fillings, it does accumulate in the body.

MANGOLD (BBC): Do you insert mercury amalgam in this practice here?

EGGLESTON: No, I do not.
MANGOLD (BBC): For the reasons you've just given?

EGGLESTON: Yes for the mercury issue, yes.

MANGOLD (BBC): And have you had your fillings, your amalgam fillings removed?

EGGLESTON: Yes, I have.

MANGOLD (BBC): Again, for the same reason?

EGGLESTON: For concern with mercury yes.

(Vision cuts away from interview)

MANGOLD (BBC): So if dental mercury enters and stays in the brain for most of our lives then what evidence is there that it produces long term damage?

Testing humans for mercury damage over a lifetime would be a notoriously difficult and expensive study. No one's ever tried it. But suddenly researchers are on the verge of a breakthrough.

These are the dental records of scores of elderly nuns in a convent in Wisconsin. They may hide part of the answer to one of amalgam's greatest riddles - is there a link between the mercury in fillings and the deadly disease of alzheimers? A unique study starting with these files may provide the clues.
These spritely ladies have made it into a fulfilling old age. They've agreed to take part in a scientific gamble by donating their brains to medical researchers who will look for a positive relationship between dental amalgams and alzheimers disease.

Already some scientists are reaching provisional conclusions about the dangers of dental amalgams.

(Vision cuts to new interview extract)

MANGOLD (BBC): Is there any doubt in your mind about the association between mercury and alzheimers?

Dr. BOYD HALEY (University of Kentucky): I would not want to make a statement that mercury causes alzheimers disease but there is no doubt in my mind that low levels of mercury, present in the brain, could cause neuronal cell death and this could lead to dementia, which would be similar to alzheimers disease.

VOICE OVER: Dr Boyd Haley, professor of medicinal and biochemistry, has just made a dramatic breakthrough while investigating the implication of dental amalgam with alzheimers. He has discovered that even tiny quantities of the metal can produce changes in the brain that are identical to changes caused by the disease. Specifically the mercury inhibits the efficiency of tubulin, a protein essential to brain cells.

HALEY: We can't go inside a living human being and look at their brains so we have to work outside and do scientific experiments such as we've done. And through the best that we can determine with these experiments, mercury is a time-bomb in the brain waiting to have an effect. If it's not bothering someone when they're young, especially when they age it could turn into something quite disastrous.

MANGOLD (BBC): So, in a worst case scenario, what happens to the human being?

HALEY: You would become demented.

VOICE OVER: Although Dr. Haley knows there is still no proof of damage, he for one has heard enough.
MANGOLD (BBC): What did you do about your own fillings?

HALEY: I still have one amalgam filling. But, when I have them replaced, I have them replaced with non-amalgam material.

MANGOLD (BBC): Why?

HALEY: Because I'm afraid enough of my own research, and concerned enough, that I don't want it in my mouth, nor do I want it in the mouth of my children, or my wife.

(Vision cuts to BDA interview extract)

MANGOLD (BBC): Are you aware of the association between dental mercury and alzheimers?

PETER GORDON (Science Advisor, British Dental Association): As far as I know, there is no association with mercury and alzheimers.

MANGOLD (BBC): Are you aware of a paper by Dr. Boyd Haley of the University of Kentucky?

GORDON: By name, no.

MANGOLD (BBC): Gentleman, this was published in 1993. Isn't this a document that should be on your desk?

JOHN HUNT (Chief Executive, British Dental Association): I come back to the point that we rely on expert advice.
MANGOLD (BBC): But, what kind of advice are you getting if these papers are not being put on your desk so that you can inform your dentists and members of the public?

HUNT: Well, we look to a group of people, including our consultants, but also we rely upon the Department of Health and other bodies to let us have their results and their advice about results that they would have read in papers.

MANGOLD (BBC): These are key papers Mr Hunt. These are very important papers, aren't they? I mean the relationship between dental mercury and alzheimers is not an unserious matter.

HUNT: No, and we shall certainly look at that paper.

(Vision cuts away from interview)

VOICE OVER: The few dentists who have read the new data now refuse to handle amalgam at all. The majority who do are warned by their dental associations to deal with it with considerable caution and respect. Some even treat it like a journey to a hostile planet. But given their occupational exposure to dental amalgam, they are taking sensible precaution.

But are all these precautions enough to protect the dentists and their assistants from the mercury vapor that they'll encounter in the workplace?

One long established and apparent fact has always consoled dentists who work with amalgam. If it doesn't hurt us, they argue, how could it harm you the patient?

But in a dramatic new study to be published shortly, even that comforting truth is now revealed as yet
another illusion.

A dentist is tested for his speed of action and reaction as part of a complex assessment of his central nervous system. Dr Diane Echeverria, a neurotoxicologist, has just completed a remarkable study. She tested American dentists to see whether they have the subtle, but dangerous, symptoms of mercury poisoning.

(Vision cuts to interview)

Dr. DIANA ECHEVERRIA (University of Washington): Well the kinds of things that we have found are losses in function associated with the ability to move manually very small things with your hands. A manual dexterity problem. Other kinds of really distinct functions are concentration, the inability to concentrate. Actually those are skills that anybody needs.

(Vision cuts to other interview)

Dr. VASKEN APOSCHIAN (University of Arizona): If I were to time how fast you could put this pen into these holes, or similar tasks, that in normal people might take one second to find the right hole and very quickly make the connections, a person with a deficit would take more time, maybe 2 or maybe even 5 seconds. And so, in the studies that Diana did, she was measuring in milliseconds which is an even more careful approximation of the times.

MANGOLD (BBC): What are the implications?

APOSCHIAN: The implications are that in the dental technicians the mercury has caused very definite central nervous system disorders.
(Vision cuts away from interview)

VOICE OVER: No one has ever tested human beings who have such a low level of mercury before. Dentists will be alarmed to learn that some of their physical functions and emotions are already being injured by exposure to such small levels of mercury vapor. It's only a question of time and research funds before similar tests are conducted on patients.

And to add to the discomforting news, the difference in body mercury levels between dentists and patients is already too close for comfort.

(Vision cuts to interview)

MANGOLD (BBC): Doctor, is there an overlap between the lowest figure of exposure for dentists and the highest figure for ordinary patients with quite a lot of amalgam fillings?

ECHEVERRIA: Probably yes.

MANGOLD (BBC): And does that mean then that a lot of patients are probably suffering the same symptoms that the dentists are suffering?

ECHEVERRIA: Well that's the next research question that we need to ask ourselves, because we don't know for sure. We have indications that comparable effects are appearing just above that range. But the leading question now is whether or not we have a problem at that lower overlap level.

MANGOLD (BBC): But that means at that level the safety margin is extremely small.


(Vision cuts to other interview)

MANGOLD (BBC): Just tell me this because people will say 'ok that's bad, it takes a microsecond longer to put a pen into a hole,' does it matter?
APOSHTAN: My greatest worry would be among the children. Now children are going to school. They are being taught things. They are being taught how to handle living situations, everyday situations. They're being given information that we hope they'll keep in their minds for a better way of life. It is conceivable that as they are being educated, and as they are being trained to do something, that their training will not stay with them as long, that they may not be able to do things as quickly, and therefore they will not be able to be judged proficient in certain tasks.

(Vision cuts away from interview)

MANGOLD (BBC): If you write to the British Dental Association here on Wimpole Street asking about the safety of amalgam fillings, they'll send you a so-called fact sheet. This is it. It covers the subject of children by stating categorically that the evidence available to the BDA doesn't justify banning the use of amalgam in young children. Yet it is precisely the young who are most vulnerable to mercury poisoning.

These children at a Liverpool comprehensive have on average a couple of fillings each. It's easy to demonstrate how the mercury vapor escapes from their small fillings. We invited an expert to bring a mercury vapor tester to check. The air around the fillings is measured.

Even without stimulation some mercury vapor is escaping from the filling. Then the filling is rubbed to simulate chewing, brushing or grinding. This time there is no doubt that mercury vapor has begun to leak copiously. This is the actual reading as the needle goes off the scale.

(Vision cuts to schoolroom)

MANGOLD (BBC): She's only got one filling hasn't she?
TESTER: Right.

MANGOLD (BBC): And if she has eight fillings.

TESTER: It'd be eight times as much.

VOICE OVER: The United States authorities recommend a maximum safe mercury exposure limit of 10 micrograms a day. But scientists have discovered that dental amalgams alone can produce between 1 and 29 micrograms of mercury vapor a day. So some people exceed the safety limit for mercury just with their fillings.

(Vision cuts to BDA interview)

MANGOLD (BBC): Do you believe it is safe to use amalgam in children?

JOHN HUNT (Chief Executive, British Dental Association): Yes, certainly. And I've treated my children with amalgam and I have no doubt that when they have their own children they will also.

(Vision cuts away from interview)

VOICE OVER: In Sweden, Dr Lars Friberg, the world authority on metals poisoning, remains baffled at the various attempts by dental lobbies to maintain their rearguard defense for a material whose time, he feels, has come.

(Vision cuts to Friberg interview)

MANGOLD (BBC): British dentists say that there's no evidence that it shouldn't be continued for use in children.
Dr. LARS FRIBERG (Consultant, World Health Organization): Yes, I think there is no basis for such a statement.

MANGOLD (BBC): Are you saying children are particularly vulnerable, or what?

FRIBERG: They are definitely particularly vulnerable. We know that if you take the young child, I mean it takes a few years after birth until the brain is developed and we know that the brain in the children are much more sensitive than the adults.

MANGOLD (BBC): You don't think that putting mercury into the brain of a child is a good thing at all, do you?

FRIBERG: No I don't think so.

(Vision cuts away from interview)

VOICE OVER: But it's not just young children at risk. Even the unborn have mercury pollution in their brains from their mother's amalgams. This evidence came to light in a study just completed by Professor Gustav Drasch, a forensic toxicologist. He examined the brains of dead babies and fetuses and found mercury deposits had crossed the placenta into their tiny skulls.

(Vision cuts to interview)
Dr. GUSTAV DRASCH (University of Munich): I think the implications are serious. It is a question whether or not we have to restrict the application of dental amalgam to women, not only in child bearing age but even before. Because you must see that if, for instance, a girl of fifteen, she get an amalgam filling, these fillings lie in your mouths for ten years, and all the time this filling release some mercury, and if this girl go pregnant, let me say five years after, she has a mercury inlay in her mouth and the mercury goes to the baby. So really the question now being discussed in Germany today is, not to forbid it, but to speak about restriction of amalgam fillings for women from, let me say, from fifteen to fifty years.

(Vision cuts to BDA interview)

MANGOLD (BBC): Do you believe it's safe to use amalgam in pregnant women?

PETER GORDON (Science Advisor, British Dental Association): There is no evidence to say that it's unsafe.

MANGOLD (BBC): But are you saying it's safe to use it in pregnant women?

JOHN HUNT (Chief Executive, British Dental Association): Yes, there's no doubt that the available data we have at present demonstrates that amalgam is just as safe as any other material that we may use for pregnant women.

MANGOLD (BBC): This is terribly important, isn't it? Mercury crosses the placenta and goes into the unborn.

HUNT: But you have to...Before you say it is dangerous or poses a risk, you have to say that mercury in
those places is dangerous. And there's no evidence to suggest that merely because it is found in the
kidneys and so on, or fetuses and young children, that it is a hazard to health.

MANGOLD (BBC): Do you think mercury, one of the most toxic metals known to man, is a good thing in
the brain of an unborn child?

HUNT: There's no proven, as far as I know, there's nothing to prove that it is causing any damage.

MANGOLD (BBC): Don't you think that this is something that ought to be put into your file?

GORDON: I don't see why we should necessarily worry about the population at large if there are no
proven arguments one way or the other; that the fact that it is there and detectable doesn't mean to say
that it is potentially doing any damage.

MANGOLD (BBC): I have to say, gentlemen, I haven't met anybody who thinks that mercury in the
brain of an unborn child is a good thing.

GORDON: But you can probably, with a correct analysis, find a whole lot of other substances in the
brain that perhaps shouldn't be there.

(Vision cuts away from interview)

VOICE OVER: As these are the men who give scientific advice to British dentists, it's not surprising
that pregnant women are still treated with amalgam fillings despite the possible health hazards to their
unborn babies. In Britain they're encouraged to take free treatment under national health.

Joe Rich is an ordinary NHS dentist. Like thousands of others he's been told little about the latest
scientific evidence about mercury. He doesn't know that much of it points towards the health hazards of
amalgam to vulnerable groups such as the expectant mother in his chair.

(Vision cuts to new interview)
MANGOLD (BBC): You're happy to place amalgam fillings in the mouths of babies, children, and pregnant women?

JOE RICH (NHS Dentist): Indeed.

MANGOLD (BBC): No problem in that respect at all?

RICH: I have no reason to doubt the efficacy of the treatment, and that there are few if any dangers to the patient in using it.

(Vision cuts to Friberg interview)

MANGOLD (BBC): We know that the mercury goes into the brain of the unborn child. Can this, under any circumstances, be a good thing?

Dr. LARS FRIBERG (Consultant, World Health Organization): No. I would say no. I think that you should try to avoid to implant toxic metals in the mouth.

MANGOLD (BBC): Why then does an organization like the British Dental Association say that mercury is safe for everybody unless they're allergic to it?

FRIBERG: Well I don't know why they say it. That's impossible for me to answer.

MANGOLD (BBC): You've written the standard textbook on the toxicology of metals and you don't agree with them, do you?

FRIBERG: No, I don't.

(Vision cuts away from interview)
MANGOLD (BBC): Sweden, the first country in the world whose parliament has banned amalgam. They've taken the dangers so seriously that amalgam's use will end within three years at the latest, and within six years all mercury will be outlawed. The Swedes have read the writing on the wall and decided to take action.

Faced with opposition from the dental lobbies and anxious at the potential legal implications, parliament carefully wrapped the legislation up in a total environmental package. But members of parliament who had pushed for the ban knew what the real targets were.

(Vision cuts to new interview)

MANGOLD (BBC): People say that the only reason the Swedes are banning dental amalgam is on environmental grounds. Now is that true?

SIW PERSSON (Member of Swedish Parliament): No, really not. It's one reason, but the most important reason is, of course, a health reason.

MANGOLD (BBC): Why has Sweden been the first country to ban dental amalgam because there's still no evidence, there's no final proof, that dental amalgam actually hurts human beings?

PERSSON: We said we have seen enough. Now we have to stop it, before much more people are more sick than they are today.

(Vision cuts away from interview)

VOICE OVER: The use of amalgam in children under the age of nineteen will be totally banned exactly
one year from now. All amalgam fillings for adults will cease by 1997. The Swedes are fully aware that there is still no proven evidence that dental amalgam harms humans. But they've been reading the latest evidence, and their assessment of the risk-benefit ratio has been changed by it forever. The health benefits of amalgam, they judge, are no longer worth the risks.

Now, other countries are following Sweden's lead. In Germany, amalgam is banned for patients with kidney problems and advised to be used with great caution in children and pregnant women. Austria plans to ban mercury in amalgams within six years. And in California, a new law now demands that dentists who use amalgam display a health warning to their patients.

Germany and the headquarters of Degussa, one of the world's larger manufacturers of dental amalgam. Even they've now decided to get out of amalgam, thus abandoning nearly half their dental products turnover. They say that there are innocent commercial reasons for this, but one of their executives suggests there's prudence in the decision too.

(Vision cuts to new interview)

MANGOLD (BBC): You are saying that despite all this new scientific evidence that it happens to be a commercial coincidence that you're getting out of amalgam?

Dr. MATTHIAS KUHNER (Senior Manager, Degussa): It was a decision that was driven by business reasons.

MANGOLD (BBC): Which would include legal reasons?

KUHNER: Definitely when you are looking at a business, legal action can have an influence on your
business. It can greatly increase the cost of your business if you have to take a lot of legal actions, or have to deal with legal actions, even if you are sure that in most cases, or in all the cases, you come out with being found not guilty.

MANGOLD (BBC): And finally, Dr. Kuhner, thank you for being so patient with me, in that sense surely the writing is on the wall for amalgam?

KUHNER: Well, as I said before, I feel that use of amalgam is going to decline even more in many nations.

(Vision cuts away from interview)

VOICE OVER: Instead, the company is concentrating on making composites, the plastic alternatives already used extensively in front teeth. Currently, they're not as cheap and durable as amalgams, and Degussa, like many competitors, is hard at work looking for the dream composite that will rival the cost and strength of amalgam.

So, is there an acceptable alternative to mercury amalgam? We've learned of a scientific breakthrough of a new mercury-free alloy at this Federal research institute near Washington. But they won't let us film inside.

The truth is, how can the demise of mercury amalgam be announced without acknowledging that mercury shouldn't have been there in the first place?

The new material, wrapped in commercial secrecy behind these walls, will be hailed not as a substitute for amalgam for reasons of health, but as an improvement on it. This cover story will please the dentists and the fillings should be safe for patients too.

(Vision cuts to Eggleston interview)
Dr. DAVID EGGLESTON (University of Southern California): The material is here and developed. It has to go through trials and research before it becomes approved, and that will take a few years.

MANGOLD (BBC): How long?

EGGLESTON: I've been told in some quarters to expect two years for that process to be completed.

MANGOLD (BBC): Will it be more expensive?

EGGLESTON: It'll be exactly the same cost, maybe even a little less expensive. It uses the same equipment for placement and actually has a superior strength once it's in place.

MANGOLD (BBC): And will it last as long?

EGGLESTON: The predictions are that it will last longer, that it has a superior strength.

MANGOLD (BBC): Well, let's get this absolutely straight. The reason this new material has been worked on is in order to eliminate mercury from the entire chemistry, yes?

EGGLESTON: There's no question. There's no incentive to develop this material other than to get rid of mercury.

(Vision cuts away from interview)

MANGOLD (BBC): So that's the concern with which the whole amalgam issue is handled overseas.
What's Britain doing? Nothing much really. We had hoped to bring you an interview with someone from the Department of Health but they refused to talk to us on camera. We would have asked them what, if anything, has changed since 1986 when they last looked at the issue and decided that there was no problem with amalgam.

Indeed, they said the controversy didn't even merit research priority. They've just handed us a four line statement. I've read it but there's nothing new in this.

But while government ignores the issue there is a new awareness in some quarters that patients need greater protection against the possible health hazards.

Stephen Challacombe is Professor of Medicine at Guys Hospital in London and one of Britain's top dentists. He has bothered to keep up with the new research and finds much of it compelling.

(Vision cuts to new interview)

MANGOLD (BBC): Are you satisfied that amalgam is safe?

Dr. STEPHEN CHALLACOMBE (Guy's Hospital): No, I don't think so. I think the evidence over the last few years has really suggested that we should have another look at the ultimate safety of amalgams.

MANGOLD (BBC): What do you make of the official government view, the Department of Health view, which is that there's no problem and therefore it doesn't even merit the priority of further research?

CHALLACOMBE: I think things have changed. A number of very good groups in Europe, in Germany, Scandinavian countries of course, who have been very much aware of the environmental effects of mercury and have looked in some detail at possible biological effects from mercury from amalgams. I'm a researcher, I'm a clinical academic, I'm very keen that we should be absolutely sure of our facts, and there's no doubt in my mind that we should be supporting research in this and other countries. We shouldn't be left behind.

MANGOLD (BBC): And in that sense you wouldn't agree with the government position at all?

CHALLACOMBE: If the government position is still that we don't need research, no I think that's
outdated.

(Vision cuts to BDA interview)

MANGOLD (BBC): Aren't you in danger of making exactly the same mistake that was made over lead, asbestos, and DDT? That we had to wait for too long, there were too many tragic side effects before the accumulation of scientific evidence showed conclusively that these were highly dangerous substances.

JOHN HUNT (Chief Executive, British Dental Association): Well, we can only rely upon the evidence that we have to date. And I don't think that the amount of mercury that is released, and we know it's released from amalgam restorations, there's no evidence that, to date, that it does cause any trouble.

(Vision cuts away from interview)

VOICE OVER: At Murray Vimy's surgery in Calgary, a young women anxious to avoid passing mercury to any future child, has an amalgam filling extracted. Paradoxically this process has its health hazards too, because the drilling out creates a dangerous surge of mercury vapor. Hence all the protective equipment on both sides of the chair.

Extraction of fillings is a serious step unless medically indicated. Patients should consult their doctors or dentists before making a decision.

(Vision cuts to Challacombe interview)

MANGOLD (BBC): Professor, can I ask you to, in the briefest and simplest way, give advice to people who will have seen this film and who will wonder if they should take their amalgam fillings out. What is your considered advice?
CHALLACOMBE: I think it would be premature for people to replace their amalgam fillings. No, the answer is do not rush to your dentists to have your amalgam fillings replaced. I think there is clearly a need for further research and when all that is through, in the long term there may be different advice. But there is a danger in doing more harm than good at this stage, so do not rush out and have your amalgam fillings replaced.

VOICE OVER: In the dark places where men work with mercury, turning old fillings into new, they treat the volatile metal with great respect. Yet those charged with the responsibility of keeping dentists and their patients informed deny these realities by insisting there is still no final proof of amalgam's harm to humans. But in science, absence of proof is not proof of absence. Ask the men who take the risks.

END

For recent news about mercury amalgams, see:

Congresswoman Diane Watson (D - California) Introduces Bill to Ban Mercury Amalgams
Mercury Report Names Dentists as Major Polluters Boston Globe June 5, 2002
Maine Mandates Dentists Disclose Mercury Amalgam Toxicity Dental Truth August 30, 2001
Biting Back Philadelphia City Paper May 23-29 2002
Mercury fillings may be affecting dentists IFIN Bulletin # 552 May 3, 2002
California Assembly votes to disband Dental Board of California Campaign for Truth September 16, 2001