

GARABRANT RECENT TESTIMONY

BROCK V. AIR PRODUCTS

ALSO IN 2000 YOU GAVE WRITTEN TESTIMONY AGAINST MY CLIENT BARBARA BROCK IN A CASE CALLED BROCK V. AIR PRODUCTS?

MRS. BROCK WAS MY CLIENT?

MRS. BROCK WORKED AT HUGHES AIRCRAFT WHERE SHE CLEANED ELECTRONIC PARTS WITH A SOLVENT?

SHE, ALONG WITH TWO OTHER HUGHES AIRCRAFT WORKERS DEVELOPED MULTIPLE MYELOMA THAT WE CLAIMED WAS DUE TO THEIR EXPOSURE TO SOLVENTS?

YOU WERE RETAINED BY MR. RIFF'S FIRM IN THOSE CASES AND PREPARED WRITTEN TESTIMONY TO URGE THE JUDGE TO HAVE THE CASE THROWN OUT OF COURT?

LOPEZ V. SUNOCO

IN 2004 YOU WERE DESIGNATED TO TESTIFY ON BEHALF OF SUN OIL COMPANY (SUNOCO) IN A CASE THAT I BROUGHT ON BEHALF OF MY CLIENT JUAN LOPEZ?

JOSE LOPEZ WORKED WITH SOLVENTS AND DEVELOPED A RARE BLOOD DISEASE?

YOU WERE PREPARED TO TESTIFY IN THAT CASE THAT MR. LOPEZ' OCCUPATIONAL EXPOSURE TO SOLVENTS DID NOT CAUSE HIS BLOOD DISEASE?

LOYOLA V. UNION OIL COMPANY

IN 2004 MR. RIFF RETAINED YOU TO TESTIFY ON BEHALF OF CHEVRON IN A CASE CALLED LOYOLA V. UNION OIL COMPANY?

MR. LOYOLA WAS MY CLIENT?

HE WAS EXPOSED TO SOLVENTS FOR MANY YEARS IN A PAINT MANUFACTURING PLANT IN LOS ANGELES?

HE DEVELOPED AND DIED FROM ACUTE MYELOGENOUS LEUKEMIA?

YOU WERE PREPARED TO TESTIFY IN THAT CASE THAT HIS LIFE-LONG EXPOSURE TO SOLVENTS IN MAKING PAINT DIDN'T CAUSE HIS LEUKEMIA AND DEATH?

CAMIZZI V. AKZO NOBEL COATINGS

IN 2004 YOU GAVE A DEPOSITION ON BEHALF OF THE DEFENSE IN A CASE CALLED CAMIZZI V. AKZO NOBEL COATINGS?

THEODORE CAMIZZII WAS MY CLIENT?

HE WAS A PASTOR WHO WAS EXPOSED TO SOLVENTS WHILE PAINTING AIRCRAFT AT MCDONNELL DOUGLAS IN LONG BEACH?

HE DEVELOPED AND DIED FROM ACUTE MYELOGENOUS LEUKEMIA IN HIS 40S?

YOU TESTIFIED THAT MR. CAMIZZII'S OCCUPATIONAL EXPOSURE TO SOLVENTS AT MCDONNELL DOUGLASS DIDN'T CAUSE HIS LEUKEMIA?

REMBOLDT V. CHEVRON

IN 2005 YOU WERE RETAINED BY THE DEFENSE TO TESTIFY IN A CASE CALLED REMBOLDT V. CHEVRON?

CHRISTOPHER REMBOLDT WAS MY CLIENT?

AND MR. RIFF REPRESENTED CHEVRON IN THAT CASE?

MR. REMBOLDT WORKED AS AN OPERATOR AT THE CHEVRON REFINERY IN RICHMOND CALIFORNIA AND DEVELOPED NON-HODGKIN'S LYMPHOMA?

YOU TESTIFIED IN THAT CASE THAT MR. REMBOLDT'S NON-HODGKIN'S LYMPHOMA WAS NOT CAUSED BY HIS EXPOSURE TO GASOLINE AT THE CHEVRON REFINERY?

SELBY V. AAC

IN 2005 YOU ALSO TESTIFIED ON BEHALF OF THE DEFENSE IN A CASE CALLED SELBY V. AAC?

BLAINE SELBY WAS MY CLIENT?

HE WAS EXPOSED TO SOLVENTS IN HIS WORK AS AN AIRCRAFT PAINTER AND IN HIS 20S HE DEVELOPED AND DIED FROM A KIDNEY DISEASE CALLED CHRONIC GLOMERULONEPHRITIS?

YOU TESTIFIED THAT HIS OCCUPATIONAL EXPOSURE TO SOLVENTS DID NOT CAUSE HIS KIDNEY DISEASE AND DEATH?

GARCIA V. ALLIED

LAST YEAR, IN 2007, YOU WERE DESIGNATED BY THE DEFENSE IN A CASE CALLED GARCIA V. ALLIED?

JOSE GARCIA WAS MY CLIENT?

HE WAS EXPOSED TO SOLVENTS FOR MANY YEARS AS A PRINTER?

AND HE DEVELOPED AND DIED FROM NON-HODGKIN'S LYMPHOMA?

YOU GAVE A DEPOSITION IN THAT CASE ON BEHALF OF THE DEFENSE?

YOU TESTIFIED THAT HIS LIFE-LONG EXPOSURE TO SOLVENTS DIDN'T CAUSE HIS NON-HODGKIN'S LYMPHOMA?

OTHER CASES

DR. GARABRANT, YOU DON'T LIMIT YOUR MEDICO-LEGAL WORK TO TESTIFYING JUST AGAINST MY CLIENTS, DO YOU?

YOU HAVE TESTIFIED ON BEHALF OF COMPANIES BEING SUED IN CASES WHERE IT WAS CLAIMED THAT ASBESTOS IN THEIR PRODUCTS CAUSED MECHANICS TO DEVELOP MESOTHELIOMA?

MESOTHELIOMA IS A CANCER THAT IS PRIMARILY CAUSED BY ASBESTOS?

IN THOSE CASES YOU TESTIFIED THAT THE WORKERS DID NOT HAVE AN INCREASED RISK OF DEVELOPING MESOTHELIOMA BECAUSE THE EPIDEMIOLOGY DIDN'T SHOW IT?

BETWEEN 2001 AND 2005 YOU WERE PAID OVER \$264,800 CONSULTING AND TESTIFYING FOR FORD AND GENERAL MOTORS IN DEFENDING THESE COMPANIES IN ASBESTOS LITIGATION?

FUNDING

YOU HAVE ALSO RECEIVED RESEARCH FUNDING FROM THE CHEMICAL INDUSTRY?

YOU ARE NOW CONDUCTING AN EPIDEMIOLOGY STUDY REGARDING DIOXIN?

DIOXIN IS A CHEMICAL THAT WAS FOR SOME TIME A CONTAMINANT OF AN HERBICIDE MADE BY DOW CHEMICAL COMPANY?

DOW CHEMICAL COMPANY HAS PROVIDED FUNDING OF \$15 MILLION FOR YOU TO DO THAT STUDY?

YOU ARE FAMILIAR WITH A PESTICIDE CALLED CHLORPYRIFOS, COMMONLY KNOWN AS DURSBAN?

THAT IS A PESTICIDE THAT DOW MANUFACTURED THAT THE EPA BANNED FOR ALL CONSUMER USES A FEW YEARS AGO?

DOW CHEMICAL COMPANY HAS ALSO FUNDED YOUR RESEARCH REGARDING THIS PESTICIDE?

AND YOU HAVE TESTIFIED ON BEHALF OF DOW IN LAWSUITS IN WHICH IT WAS CLAIMED THAT THIS PESTICIDE INJURED PEOPLE?

PARAQUAT EPIDEMIOLOGY STUDIES

NOW YOU'VE TOLD THE JURY ABOUT VARIOUS EPIDEMIOLOGIC STUDIES REGARDING PARAQUAT?

INCIDENTALLY, WITH THE EXCEPTION OF THE CAL-TRANS STUDY WHICH WAS CONDUCTED BY THE CALIFORNIA DEPARTMENT OF HEALTH, ALL OF THOSE STUDIES WERE INDUSTRY STUDIES, WEREN'T THEY?

THEY WERE ALL FUNDED BY ICI AND SYNGENTA, THE MANUFACTURERS OF PARAQUAT?

METHODOLOGIC FLAWS

THOSE STUDIES HAVE SOME METHODOLOGIC FLAWS (OR LIMITATIONS), DON'T THEY?

EXCLUDING SICK WORKERS

IN DOING AN EPIDEMIOLOGY STUDY OF EXPOSED WORKERS, IT'S IMPORTANT TO INCLUDE THE SICKEST WORKERS IN THE STUDY?

IN SOME OF THOSE STUDIES THE RESEARCHERS EVALUATED THE LUNG FUNCTION OF PARAQUAT APPLICATORS WHO WERE CURRENTLY SPRAYING PARAQUAT?

ANY APPLICATORS WHOSE LUNG FUNCTION HAD DETERIORATED TO THE POINT THAT THEY COULD NO LONGER WORK WERE NOT EVALUATED IN THOSE STUDIES, BECAUSE THEY WEREN'T APPLYING PARAQUAT AT THE TIME OF THE STUDY?

THAT'S A PRETTY SERIOUS FLAW WITH THOSE STUDIES, ISN'T IT?

EXPOSED COMPARISON GROUP

IN DOING AN OCCUPATIONAL EPIDEMIOLOGIC STUDY, YOU WANT TO COMPARE AN EXPOSED GROUP OF WORKERS TO A GROUP OF WORKERS WHO ARE NOT EXPOSED TO SEE IF THERE ARE DIFFERENCES IN THE RATE AT WHICH THEY DEVELOP A DISEASE, SUCH AS LUNG FIBROSIS?

IN DESIGNING SUCH A STUDY, IT'S VERY IMPORTANT TO BE SURE THAT YOU ONLY HAVE EXPOSED WORKERS IN THE EXPOSED GROUP AND YOU ONLY HAVE UNEXPOSED WORKERS IN THE COMPARISON GROUP?

IF YOU DON'T DO THIS, THE STUDY WILL TEND TO UNDERSTATE THE RISK THAT EXPOSURE TO THE CHEMICAL INCREASES DISEASE?

IN SOME OF THE PARAQUAT EPIDEMIOLOGY STUDIES, THE INVESTIGATORS COMPARED THE LUNG FUNCTION OF THE PARAQUAT APPLICATORS TO THE LUNG

FUNCTION OF OTHER WORKERS ON THE PLANTATIONS WHO WERE NOT CURRENT PARAQUAT APPLICATORS?

SOME OF THE WORKERS IN THE UNEXPOSED COMPARISON GROUP MAY HAVE PREVIOUSLY BEEN PARAQUAT APPLICATORS?

IF THEY HAD PRIOR PARAQUAT EXPOSURE, THEY SHOULDN'T BE IN THE UNEXPOSED COMPARISON GROUP?

AND BECAUSE ALL THE WORKERS IN THE SO-CALLED UNEXPOSED GROUP WORKED AT THE PLANTATION, IT'S POSSIBLE THAT THEY ALL COULD HAVE HAD SOME EXPOSURE TO PARAQUAT FROM SPRAY DRIFT OR OTHERWISE?

TO EPIDEMIOLOGISTS LIKE YOURSELF, THIS IS WHAT'S KNOWN AS MISCLASSIFICATION?

AND IT CAN BE A BIG PROBLEM IN EPIDEMIOLOGY STUDIES?

ONE WAY OF AVOIDING THIS PROBLEM WOULD BE TO USE A COMPARISON GROUP OF WORKERS FROM ANOTHER PLANTATION WHERE PARAQUAT WAS NEVER USED, INSTEAD OF WORKERS FROM A PLANTATION WHERE IT WAS USED?

MORTALITY STUDY

ANOTHER PROBLEM WITH THOSE STUDIES IS THAT THEY REALLY WEREN'T SPECIFICALLY DESIGNED TO DETERMINE WHETHER ANY OF THE WORKERS ACTUALLY HAD PULMONARY FIBROSIS?

THEY WERE ONLY DESIGNED TO EVALUATE THE LUNG FUNCTION OF THE PARAQUAT APPLICATORS?

IF THE PARAQUAT MANUFACTURERS WANTED TO FUND A STUDY THAT WOULD ACTUALLY DETERMINE WHETHER PARAQUAT APPLICATORS WERE GETTING LUNG FIBROSIS FROM CHRONIC EXPOSURE TO PARAQUAT, AN EPIDEMIOLOGIST SUCH AS YOURSELF COULD DESIGN SUCH A STUDY?

ONE OF THE WAYS YOU COULD DO THIS WOULD BE TO DO A COHORT MORTALITY STUDY?

YOU COULD DO EITHER A RETROSPECTIVE MORTALITY STUDY OR A PROSPECTIVE MORTALITY STUDY?

IF YOU WANTED TO DO A RETROSPECTIVE MORTALITY STUDY, YOU COULD GO THROUGH THE PLANTATION'S EMPLOYMENT RECORDS AND TRY TO IDENTIFY EVERY APPLICATOR WHO EVER WORKED AT THE PLANTATION, YOU COULD TRY TO IDENTIFY THOSE WHO HAD DIED, AND YOU COULD EXAMINE THEIR DEATH CERTIFICATES AND PERHAPS THEIR MEDICAL RECORDS TO SEE IF LUNG FIBROSIS WAS A CAUSE OF THEIR DEATHS?

AND YOU COULD DO THE SAME FOR A PLANTATION WHERE PARAQUAT WAS NEVER USED, TO SEE IF THERE WERE MORE DEATHS FROM LUNG FIBROSIS AT THE PLANTATION USING PARAQUAT THAN THE PLANTATION THAT DIDN'T? YOU COULD ALSO DO A PROSPECTIVE COHORT STUDY WHERE YOU IDENTIFY A GROUP OF PARAQUAT APPLICATORS AND AN UNEXPOSED COMPARISON GROUP AND

YOU FOLLOW THEM UNTIL THEY ALL DIE TO SEE WHETHER THE EXPOSED GROUP HAD MORE DEATHS FROM LUNG FIBROSIS THAN THE UNEXPOSED GROUP?

BUT THE PARAQUAT MANUFACTURERS NEVER FUNDED ANY EPIDEMIOLOGISTS TO DO EITHER A RETROSPECTIVE OR PROSPECTIVE COHORT MORTALITY STUDY?

IS IT POSSIBLE THAT THEY DIDN'T FUND SUCH A STUDY BECAUSE THEY WERE AFRAID WHAT THEY'D FIND?

SO, ALL THAT WE HAVE TO CONSIDER IN THIS CASE IS THE EPIDEMIOLOGIC STUDIES THAT THE PARAQUAT MANUFACTURING INDUSTRY FUNDED WHICH EVALUATED LUNG FUNCTION OF WORKING PARAQUAT APPLICATORS?

EVEN WITH THE LIMITATIONS OF THESE STUDIES WHICH WE'VE DISCUSSED, MOST OF THE STUDIES FOUND THAT LUNG FUNCTION PARAMETERS OF THE PARAQUAT APPLICATORS WERE DECREASED COMPARED WITH THE WORKERS THAT WERE CLASSIFIED AS BEING UNEXPOSED?

NOW, AS YOU'VE TOLD THE JURY, THOSE DIFFERENCES WERE NOT CLINICALLY SIGNIFICANT?

AND WHAT THAT MEANS WAS THAT THE WORKERS WHOSE LUNG FUNCTION WAS REDUCED DID NOT APPEAR TO BE SICK? AND THEY WERE ABLE TO WORK?

DR. GARABRANT, DO YOU KNOW HOW MANY OF THOSE WORKERS WHO WERE APPARENTLY HEALTHY BUT WHOSE LUNG FUNCTION WAS REDUCED, LATER WENT ON TO DEVELOP FIBROTIC LUNG DISEASE?

THE STUDIES FUNDED BY THE PARAQUAT MANUFACTURING INDUSTRY HAVEN'T FOLLOWED UP THE WORKERS TO SEE HOW MANY OF THEM GOT FIBROTIC LUNG DISEASE, LIKE MR. TURNER DID?

NECESSITY OF EPIDEMIOLOGY FOR CAUSATION

DR. GARABRANT, DO YOU CONSIDER EPIDEMIOLOGY TO BE IMPORTANT IN DETERMINING WHETHER A CHEMICAL OR CONDITION CAN CAUSE A DISEASE?

IS THAT BECAUSE YOU BELIEVE THAT CAUSAL RELATIONSHIPS GENERALLY CAN ONLY BE ESTABLISHED WHERE THERE IS SUPPORTIVE EPIDEMIOLOGICAL EVIDENCE?

(IF YES, STOP)

IS IT TRUE THAT ASSOCIATIONS THAT HAVE MEANING FOR HUMAN CAUSATION ARE LARGELY DERIVED FROM EPIDEMIOLOGIC EVIDENCE?

(LECHNER: 58:5 - 17)

YOU WOULD AGREE THAT SOME INFECTIOUS ORGANISMS CAN BE SHOWN TO CAUSE HUMAN INFECTIOUS DISEASE IN THE ABSENCE OF EPIDEMIOLOGY, BASED ON LABORATORY SCIENCE AND EXPERIMENTS IN SMALL NUMBERS OF INDIVIDUALS?

(LECHNER 58:21 - 59:2)

BUT OTHER THAN IN THE SETTING OF INFECTIOUS DISEASE, YOU CAN'T THINK OF ANY OTHER SETTINGS THAT WOULD BE APPROPRIATE FOR DECIDING CAUSATION IN THE ABSENCE OF EPIDEMIOLOGIC DATA?

(LECHNER - 59:5-23)

CAN EPIDEMIOLOGY ANSWER THE QUESTION WHETHER A PARTICULAR EXPOSURE HURTS PEOPLE BETTER THAN OTHER BRANCHES OF SCIENCE?

(LAICO TRIAL - 1858:17-23)

IS IT TRUE THAT EPIDEMIOLOGY OFTEN PROVIDES THE MOST VALID EVIDENCE OF CAUSATION FOR ENVIRONMENTAL

EPIDEMIOLOGIC METHOD

FOR A LONG TIME PHYSICIANS AND SCIENTISTS HAVE TRIED TO DISCOVER THE CAUSES OF HUMAN DISEASES?

WHEN A RESEARCHER SUSPECTS THAT SOMETHING MAY BE CAUSING A PARTICULAR DISEASE, HE CAN STATE THAT AS A HYPOTHESIS AND TRY TO PROVE IT?

EPIDEMIOLOGY CAN HELP DO THAT?

ONE OF THE THINGS THAT EPIDEMIOLOGY CAN DO IS TO FIND OUT IF THERE IS SUPPORT FOR A HYPOTHESIS THAT SOMETHING CAUSES A DISEASE IN PEOPLE?

EPIDEMIOLOGY CAN HELP TO EITHER SUPPORT OR DISPROVE SUCH A HYPOTHESIS?

IN DOING AN EPIDEMIOLOGY STUDY TO DETERMINE WHETHER SOMETHING CAUSES A DISEASE, IT'S ALWAYS IMPORTANT TO HAVE A CONTROL GROUP? (MALLIA 81:13-15)