

EDITORIAL NOTE: There are about 45 job-associated modules. The modules for electrician and butcher are given as examples; the others are available from P. Stewart.

STUDY OF BRAIN TUMORS IN ADULTS

OCCUPATIONAL MODULE : ELECTRICIAN

BOX EL-1

S. EVER WORKED AS AN ELECTRICIAN/REPAIRER OF TRANSFORMERS, ELECTRICAL, OR ELECTRONIC EQUIPMENT 1 (EL-1)

S. NEVER WORKED AS AN ELECTRICIAN/REPAIRER OF TRANSFORMERS, ELECTRICAL, OR ELECTRONIC EQUIPMENT 2 (GO TO NEXT MODULE)

EL-1. Did (you/your _____) . . .

	<u>YES</u>	<u>NO</u>	<u>DK</u>
a. install wiring in buildings under construction?	1	2	8
b. repair, maintain, or install wiring in existing buildings?	1	2	8
c. work for a utility company?	1	2	8
d. work for a manufacturer that made a product?	1	2	8
e. repair electronic equipment?	1	2	8
f. work in a shipyard?	1	2	8
g. Other? (SPECIFY) _____	1	2	8

BOX EL-2

IF EL-1a = 1, THEN ASK EL-2. OTHERWISE, GO TO BOX EL-3.

EL-2. Were the buildings under construction (you/your _____) worked in . .

	<u>YES</u>	<u>NO</u>	<u>DK</u>
a. retail or commercial?	1	2	8
b. manufacturing or industrial?	1	2	8
c. houses or apartments?	1	2	8

BOX EL-3

IF EL-1b = 1, THEN ASK EL-3. OTHERWISE, GO TO BOX EL-4.

EL-3. Were the existing buildings (you/your _____) worked in . . .

	<u>YES</u>	<u>NO</u>	<u>DK</u>
a. retail or commercial?	1	2	8
b. manufacturing or industrial?	1	2	8
c. houses or apartments?	1	2	8

BOX EL-4

IF EL-1c = 1, ASK EL-4. OTHERWISE, SKIP TO BOX EL-5.

EL-4. Did (you/your _____) ...

	<u>YES</u>	<u>NO</u>	<u>DK</u>
a. work as a maintenance electrician?	1	2	8
b. install power lines?	1	2	8
c. repair power lines?	1	2	8
d. work at a power station?	1	2	8

BOX EL-5

IF EL-1d = 1 OR EL-2b = 1 OR EL-3b = 1, ASK EL-5. OTHERWISE, SKIP TO EL-6.

EL-5. What did the manufacturer/industry make?

DK _____

EL-6. How many hours a week did (you/your _____) work indoors?

_____ PER	DAY	1
# HOURS	WEEK	2
	MONTH	3
	YEAR	4
	NEVER	005
	DID, DK HOW MANY HOURS ...	966
	DK	988

BOX EL-6

IF RESPONDENT IS NEXT OF KIN/PROXY ONLY, GO TO EL-9.

	<p>EL-7. I'm now going to ask you how many hours you did specific tasks as a (JOB TITLE). If you did not do any task I name, just say zero or never. On average, how many hours a week did you...</p>	<p>EL-8. How many weeks a year did you (ACTIVITY)?</p>
a. remove insulation?	<p>_____ PER DAY 1 # HOURS WEEK 2 MONTH ... 3 YEAR 4</p> <p>NEVER 005 (b) DID, DK HOW MANY HOURS 966 DK 988 (b)</p>	<p>_____ PER MONTH ...3 # WEEKS YEAR4</p> <p>DID, DK HOW MANY WEEKS966</p>
b. install insulation?	<p>_____ PER DAY 1 # HOURS WEEK 2 MONTH ... 3 YEAR 4</p> <p>NEVER 005 (c) DID, DK HOW MANY HOURS 966 DK 988 (c)</p>	<p>_____ PER MONTH ...3 # WEEKS YEAR4</p> <p>DID, DK HOW MANY WEEKS966</p>
c. weld, flame cut, or braze?	<p>_____ PER DAY 1 # HOURS WEEK 2 MONTH ... 3 YEAR 4</p> <p>NEVER 005 (d) DID, DK HOW MANY HOURS 966 DK 988 (d)</p>	<p>_____ PER MONTH ...3 # WEEKS YEAR4</p> <p>DID, DK HOW MANY WEEKS966</p>
d. solder?	<p>_____ PER DAY 1 # HOURS WEEK 2 MONTH ... 3 YEAR 4</p> <p>NEVER 005 (e) DID, DK HOW MANY HOURS 966 DK 988 (e)</p>	<p>_____ PER MONTH ...3 # WEEKS YEAR4</p> <p>DID, DK HOW MANY WEEKS966</p>

	<p>EL-7. I'm now going to ask you how many hours you did specific tasks as a (JOB TITLE). If you did not do any task I name, just say zero or never. On average, how many hours a week did you...</p>	<p>EL-8. How many weeks a year did you (ACTIVITY)?</p>
e. machine metal parts?	<p>_____ DAY 1 PER WEEK 2 # HOURS MONTH ... 3 YEAR 4</p> <p>NEVER 005 (f) DID, DK HOW MANY HOURS 966 DK 988 (f)</p>	<p>_____ PER MONTH ...3 # WEEKS YEAR4</p> <p>DID, DK HOW MANY WEEKS966</p>
f. clean or degrease metal parts?	<p>_____ DAY 1 PER WEEK 2 # HOURS MONTH ... 3 YEAR 4</p> <p>NEVER 005 (g) DID, DK HOW MANY HOURS 966 DK 988 (g)</p>	<p>_____ PER MONTH ...3 # WEEKS YEAR4</p> <p>DID, DK HOW MANY WEEKS966</p>
g. use glue or adhesives?	<p>_____ DAY 1 PER WEEK 2 # HOURS MONTH ... 3 YEAR 4</p> <p>NEVER 005 (h) DID, DK HOW MANY HOURS 966 DK 988 (h)</p>	<p>_____ PER MONTH ...3 # WEEKS YEAR4</p> <p>DID, DK HOW MANY WEEKS966</p>
h. apply protective coating to cables?	<p>_____ DAY 1 PER WEEK 2 # HOURS MONTH ... 3 YEAR 4</p> <p>NEVER 005 (i) DID, DK HOW MANY HOURS 966 DK 988 (i)</p>	<p>_____ PER MONTH ...3 # WEEKS YEAR4</p> <p>DID, DK HOW MANY WEEKS966</p>

	<p>EL-7. I'm now going to ask you how many hours you did specific tasks as a (JOB TITLE). If you did not do any task I name, just say zero or never. On average, how many hours a week did you...</p>	<p>EL-8. How many weeks a year did you (ACTIVITY)?</p>
i. remove, install, repair, or replace the fluid in transformers?	<p>_____ DAY 1 PER WEEK 2 # HOURS MONTH ... 3 YEAR 4</p> <p>NEVER 005 (BOX EL-7) DID, DK HOW MANY HOURS 966 DK 988 (BOX EL-7)</p>	<p>_____ PER MONTH ...3 # WEEKS YEAR4</p> <p>DID, DK HOW MANY WEEKS966</p>

BOX EL-7
IF EL-1a, b, OR c = 1, ASK EL-7j. OTHERWISE, SKIP TO BOX EL-8.

j. work underground?	<p>_____ DAY 1 PER WEEK 2 # HOURS MONTH ... 3 YEAR 4</p> <p>NEVER 005 (BOX EL-8) DID, DK HOW MANY HOURS 966 DK 988 (BOX EL-8)</p>	<p>_____ PER MONTH ...3 # WEEKS YEAR4</p> <p>DID, DK HOW MANY WEEKS966</p>
----------------------	---	--

BOX EL-8
IF EL-1d = 1, ASK EL-7k. OTHERWISE, SKIP TO BOX EL-9.

k. maintain or test transmitters or do bench level design, development, or testing of radio-frequency-producing circuits?	<p>_____ DAY 1 PER WEEK 2 # HOURS MONTH ... 3 YEAR 4</p> <p>NEVER 005 (BOX EL-9) DID, DK HOW MANY HOURS 966 DK 988 (BOX EL-9)</p>	<p>_____ PER MONTH ...3 # WEEKS YEAR4</p> <p>DID, DK HOW MANY WEEKS966</p>
---	---	--

BOX EL-9
 IF EL-7a + b + c + d + e + f + g + h + i + j + k = < 35 HOURS PER WEEK, ASK EL-9. OTHERWISE, GO TO BOX EL-10.

EL-9. What (else did you/did your _____) do?

DK _____

BOX EL-10
 IF EL-1d, 2b or 3b = 1, ASK EL-10. OTHERWISE, SKIP TO BOX EL-13.

EL-10. Did (you/your _____) work as a maintenance electrician or as an electrician making a product?

- | | | | |
|----|----------------------|---|-------------|
| a. | Maintenance | 1 | |
| b. | Made a product | 2 | (BOX EL-13) |
| c. | Both | 3 | |
| d. | DK | 8 | (BOX EL-13) |

BOX EL-11
 IF RESPONDENT IS NEXT OF KIN/PROXY ONLY, GO TO BOX EL-13.

EL-11. How many hours a week did you spend in the maintenance or electrician shop?

- | | | | | |
|---------|-----|--|--|--------------------------------|
| | PER | | | |
| | | | | DAY 1 |
| # HOURS | | | | WEEK 2 |
| | | | | MONTH 3 |
| | | | | YEAR 4 |
| | | | | NEVER 005 |
| | | | | DID, DK HOW MANY HOURS ... 966 |
| | | | | DK 988 |

EL-12. How many hours a week did you spend in the production areas of the plant?

- | | | | | |
|---------|-----|--|--|--------------------------------|
| | PER | | | |
| | | | | DAY 1 |
| # HOURS | | | | WEEK 2 |
| | | | | MONTH 3 |
| | | | | YEAR 4 |
| | | | | NEVER 005 |
| | | | | DID, DK HOW MANY HOURS ... 966 |
| | | | | DK 988 |

BOX EL-12
 IF EL-12 IS > 5 HOURS, ASK EL-13. OTHERWISE, SKIP TO BOX EL-13.

EL-13. What were other workers doing in the production area where you spent most of your time?

DK _____

BOX EL-13

IF EL-1f = 1, ASK EL-14. OTHERWISE, SKIP TO BOX EL-14.

EL-14. How many hours a week did (you/your _____) . . .

a. work on a ship repairing it?

_____	PER	DAY	1
# HOURS		WEEK	2
		MONTH	3
		YEAR	4
NEVER		005	
DID, DK HOW MANY HOURS ...		966	
DK		988	

b. work on building new ships?

_____	PER	DAY	1
# HOURS		WEEK	2
		MONTH	3
		YEAR	4
NEVER		005	
DID, DK HOW MANY HOURS ...		966	
DK		988	

c. work in the shop?

_____	PER	DAY	1
# HOURS		WEEK	2
		MONTH	3
		YEAR	4
NEVER		005	
DID, DK HOW MANY HOURS ...		966	
DK		988	

d. work in the yard or the yard buildings as a maintenance electrician?

_____ PER DAY 1
 # HOURS WEEK 2
 MONTH 3
 YEAR 4

 NEVER 005
 DID, DK HOW MANY HOURS ... 966
 DK 988

BOX EL-14

IF RESPONDENT IS NEXT OF KIN/PROXY ONLY, GO TO NEXT MODULE. OTHERWISE, GO TO BOX EL-15.

BOX EL-15

IF EL-7a OR 7b IS > 1 HOUR PER WEEK, ASK EL-15. OTHERWISE, SKIP TO BOX EL-16.

	EL-15. You said you installed or removed insulation. Was the insulation . . .	EL-16. On average, how many hours a week did you install (TYPE)?
a. asbestos?	YES 1 NO 2 (b) DK 8 (b)	_____ PER DAY 1 # HOURS WEEK 2 MONTH 3 YEAR 4 DID, DK HOW MANY HOURS 966
b. fiberglass?	YES 1 NO 2 (c) DK 8 (c)	_____ PER DAY 1 # HOURS WEEK 2 MONTH 3 YEAR 4 DID, DK HOW MANY HOURS 966
c. mineral wool?	YES 1 NO 2 (BOX EL-16) DK 8 (BOX EL-16)	_____ PER DAY 1 # HOURS WEEK 2 MONTH 3 YEAR 4 DID, DK HOW MANY HOURS 966

BOX EL-16

IF EL-7c > 1 HOUR A WEEK, ASK EL-17. OTHERWISE, SKIP TO BOX EL-17.

	EL-17. You said you welded, cut, or brazed. On average, how many hours a week did you do . . .	EL-18. On average, how many weeks a year did you do (ACTIVITY)?
a. any kind of arc welding?	<p>_____ DAY 1 PER WEEK 2 # HOURS MONTH ... 3 YEAR 4</p> <p>NEVER 005 (b) DID, DK HOW MANY HOURS 966 DK 988</p>	<p>_____ PER MONTH ...3 # WEEKS YEAR4</p> <p>DID, DK HOW MANY WEEKS966</p>
b. any kind of gas welding?	<p>_____ DAY 1 PER WEEK 2 # HOURS MONTH ... 3 YEAR 4</p> <p>NEVER005 (EL-19) DID, DK HOW MANY HOURS966 DK988</p>	<p>_____ PER MONTH ...3 # WEEKS YEAR4</p> <p>DID, DK HOW MANY WEEKS966</p>

	EL-19. What metals did you weld, cut, or braze?	EL-20. On average, how many hours a week did you weld, cut, or braze (TYPE)?
a. Stainless steel?	<p>YES 1 NO 2 (b)</p>	<p>_____ DAY1 PER WEEK2 # HOURS MONTH3 YEAR4</p> <p>DID, DK HOW MANY HOURS 966</p>
b. Mild steel (ordinary or construction steel)?	<p>YES 1 NO 2 (c)</p>	<p>_____ DAY 1 PER WEEK2 # HOURS MONTH3 YEAR4</p> <p>DID, DK HOW MANY HOURS 966</p>
c. Galvanized iron or steel?	<p>YES 1 NO 2 (d)</p>	<p>_____ DAY1 PER WEEK2 # HOURS MONTH3 YEAR4</p> <p>DID, DK HOW MANY HOURS 966</p>

	EL-19. What metals did you weld, cut, or braze?	EL-20. On average, how many hours a week did you weld, cut, or braze (TYPE)?
d. Cadmium-plated steel?	YES 1 NO 2 (e)	_____ PER DAY 1 # HOURS WEEK 2 MONTH 3 YEAR 4 DID, DK HOW MANY HOURS 966
e. Lead-plated or leaded steel?	YES 1 NO 2 (f)	_____ PER DAY 1 # HOURS WEEK 2 MONTH 3 YEAR 4 DID, DK HOW MANY HOURS 966
f. Brass or bronze?	YES 1 NO 2 (g)	_____ PER DAY 1 # HOURS WEEK 2 MONTH 3 YEAR 4 DID, DK HOW MANY HOURS 966
g. Cast iron?	YES 1 NO 2 (BOX EL-17)	_____ PER DAY 1 # HOURS WEEK 2 MONTH 3 YEAR 4 DID, DK HOW MANY HOURS 966

BOX EL-17

IF EL-7h IS > 1 HOUR PER WEEK, ASK EL-21. OTHERWISE, SKIP TO BOX EL-18.

	EL-21. You said you applied coating to cables. What type of coating did you use?	EL-22. On average, how many hours a week did you use (TYPE)?
a. asphalt?	YES 1 NO 2 (b) DK 8 (b)	_____ PER DAY 1 # HOURS WEEK 2 MONTH 3 YEAR 4 DID, DK HOW MANY HOURS 966
b. epoxy resins?	YES 1 NO 2 (c) DK 8 (c)	_____ PER DAY 1 # HOURS WEEK 2 MONTH 3 YEAR 4 DID, DK HOW MANY HOURS 966
c. something else?	YES 1 (SPECIFY) _____ NO 2 (BOX EL-18) DK 8 (BOX EL-18)	_____ PER DAY 1 # HOURS WEEK 2 MONTH 3 YEAR 4 DID, DK HOW MANY HOURS 966

BOX EL-18

IF EL-7e IS > 1 HOUR PER WEEK, ASK EL-23. OTHERWISE, SKIP TO BOX EL-20.

	EL-23. You said you machined parts. What type of cutting or cooling oils did you use?	EL-24. On average, how many hours a week did you use (TYPE)?
a. straight cutting oils clear and feels oily)?	YES 1 NO 2 (b) DK 8 (b)	_____ PER DAY 1 # HOURS WEEK 2 MONTH 3 YEAR 4 DID, DK HOW MANY HOURS 966
b. soluble cutting oils (milky white and feels watery)?	YES 1 NO 2 (c) DK 8 (c)	_____ PER DAY 1 # HOURS WEEK 2 MONTH 3 YEAR 4 DID, DK HOW MANY HOURS 966
c. something else?	YES 1 (SPECIFY) _____ NO 2 (BOX EL-18) DK 8 (BOX EL-18)	_____ PER DAY 1 # HOURS WEEK 2 MONTH 3 YEAR 4 DID, DK HOW MANY HOURS 966

BOX EL-19

IF EL-24a OR 24b OR 24c > 0, ASK EL-25. OTHERWISE, GO TO BOX EL-20.

EL-25. How many hours a week, on average, did you have cutting oils on your hands?

_____ PER DAY 1
HOURS WEEK 2
MONTH 3
YEAR 4

NEVER 005
DID, DK HOW MANY HOURS ... 966
DK 988

BOX EL-20

IF EL-7i IS > 1 HOUR PER WEEK, ASK EL-26. OTHERWISE, SKIP TO BOX EL-21.

EL-26. You said you worked on transformers. On average, how many times a year did you have transformer oil or dielectric fluid on your hands?

_____ PER DAY 1
 # TIMES WEEK 2
 MONTH 3
 YEAR 4

NEVER 005 (BOX EL-21)
 DID, DK HOW MANY TIMES 966
 DK 988 (BOX EL-21)

EL-27. On average, how many times a year did you have transformer oil that contained PCBs on your hands?

_____ PER DAY 1
 # TIMES WEEK 2
 MONTH 3
 YEAR 4

NEVER 005
 DID, DK HOW MANY TIMES 966
 DK 988

BOX EL-21
 IF EL-7f IS > 1 HOUR PER WEEK, ASK EL-28. OTHERWISE, SKIP TO EL-31.

	EL-28. You said you cleaned or degreased metal parts. Which of the following did you use to clean or degrease parts?	EL-29. On average, how many hours a week did you use (AGENT)?
a. carbon tetrachloride?	YES 1 NO 2 (b) DK 8 (b)	_____ PER DAY 1 # HOURS WEEK 2 MONTH 3 YEAR 4 DID, DK HOW MANY HOURS 966
b. chloroform?	YES 1 NO 2 (c) DK 8 (c)	_____ PER DAY 1 # HOURS WEEK 2 MONTH 3 YEAR 4 DID, DK HOW MANY HOURS 966
c. methylene chloride?	YES 1 NO 2 (d) DK 8 (d)	_____ PER DAY 1 # HOURS WEEK 2 MONTH 3 YEAR 4 DID, DK HOW MANY HOURS 966

	EL-28. You said you cleaned or degreased metal parts. Which of the following did you use to clean or degrease parts?	EL-29. On average, how many hours a week did you use (AGENT)?
d. trichloroethylene?	YES 1 NO 2 (e) DK 8 (e)	_____ PER DAY 1 # HOURS WEEK 2 MONTH 3 YEAR 4 DID, DK HOW MANY HOURS 966
e. trichloroethane?	YES 1 NO 2 (f) DK 8 (f)	_____ PER DAY 1 # HOURS WEEK 2 MONTH 3 YEAR 4 DID, DK HOW MANY HOURS 966
f. Any other chemicals?	YES 1 (SPECIFY) ____ _____ NO 2 (g) DK 8 (g)	_____ PER DAY 1 # HOURS WEEK 2 MONTH 3 YEAR 4 DID, DK HOW MANY HOURS 966
g. Acids?	YES 1 NO 2 (h) DK 8 (h)	_____ PER DAY 1 # HOURS WEEK 2 MONTH 3 YEAR 4 DID, DK HOW MANY HOURS 966
h. Alkalis?	YES 1 NO 2 (i) DK 8 (i)	_____ PER DAY 1 # HOURS WEEK 2 MONTH 3 YEAR 4 DID, DK HOW MANY HOURS 966
i. Freon?	YES 1 NO 2 (j) DK 8 (j)	_____ PER DAY 1 # HOURS WEEK 2 MONTH 3 YEAR 4 DID, DK HOW MANY HOURS 966

	EL-28. You said you cleaned or degreased metal parts. Which of the following did you use to clean or degrease parts?	EL-29. On average, how many hours a week did you use (AGENT)?
j. Gasoline?	YES 1 NO 2 (k) DK 8 (k)	_____ PER DAY 1 # HOURS WEEK 2 MONTH 3 YEAR 4 DID, DK HOW MANY HOURS 966
k. Methyl Ethyl Ketone (MEK)?	YES 1 NO 2 (l) DK 8 (l)	_____ PER DAY 1 # HOURS WEEK 2 MONTH 3 YEAR 4 DID, DK HOW MANY HOURS 966
l. Mineral spirits?	YES 1 NO 2 (m) DK 8 (m)	_____ PER DAY 1 # HOURS WEEK 2 MONTH 3 YEAR 4 DID, DK HOW MANY HOURS 966
m. Naphta?	YES 1 NO 2 (n) DK 8 (n)	_____ PER DAY 1 # HOURS WEEK 2 MONTH 3 YEAR 4 DID, DK HOW MANY HOURS 966
n. Stoddard solvent?	YES 1 NO 2 (EL-30) DK 8 (EL-30)	_____ PER DAY 1 # HOURS WEEK 2 MONTH 3 YEAR 4 DID, DK HOW MANY HOURS 966

EL-30. Please describe how you degreased parts:

DK _____

EL-31. How many hours a week were you in an area where you had to shout to be heard by someone within three feet of you?

_____	PER	DAY	1
# HOURS		WEEK	2
		MONTH	3
		YEAR	4
NEVER			005
DID, DK HOW MANY HOURS ...			966
DK			988

EL-32. How many hours a day did you:

a. use a hand-held electrical tool?

_____	PER	DAY	1
# HOURS		WEEK	2
		MONTH	3
		YEAR	4
NEVER			005
DID, DK HOW MANY HOURS ...			966

b. use or work near a medium-sized electrical machine or equipment about the size of a household washer or dryer?

_____	PER	DAY	1
# HOURS		WEEK	2
		MONTH	3
		YEAR	4
NEVER			005
DID, DK HOW MANY HOURS ...			966

c. use or work near heavy duty industrial electrical equipment larger than a household washer or dryer?

_____	PER	DAY	1
# HOURS		WEEK	2
		MONTH	3
		YEAR	4
NEVER			005
DID, DK HOW MANY HOURS ...			966

- d. work within 30 feet of energized high-voltage electrical equipment, such as power lines or transformers or large magnetic fields?

_____	PER	DAY	1
# HOURS		WEEK	2
		MONTH	3
		YEAR	4
NEVER			005
DID, DK HOW MANY HOURS ...			966

BOX EL-22

IF EL-32b IS > 5 HOURS PER WEEK, ASK EL-33. OTHERWISE, SKIP TO BOX EL-23.

- EL-33. You said you used or worked near medium-sized equipment. On average, did you work within three feet of the motor of that equipment?

YES	1
NO	2
DK	8

BOX EL-23

IF EL-32c IS > 5 HOURS PER WEEK, ASK EL-34. OTHERWISE, SKIP TO BOX EL-24.

- EL-34. You said you used or worked near heavy-duty equipment. On average, how far away did you work from the motor of that equipment?

a. Less than three feet,	1
b. Three to six feet, or	2
c. Greater than six feet?	3
d. DK	8

BOX EL-24

IF EL-32d IS > 5 HOURS PER WEEK, ASK EL-35. OTHERWISE, GO TO EL-36.

- EL-35. You said you used or worked near high-voltage equipment. On average, how far away did you work from that equipment?

a. Less than 15 feet,	1
b. Fifteen to 30 feet, or	2
c. Greater than 30 feet?	3
e. DK	8

EL-36. Did you wear any protective clothing or equipment?

YES1
NO2 (GO TO NEXT MODULE)
DK8 (GO TO NEXT MODULE)

EL-37. What protective clothing or equipment did you wear?

		<u>YES</u>	<u>NO</u>
a.	A FILTER-CARTRIDGE RESPIRATOR	1	2
b.	AN AIR-SUPPLIED OR SCUBA RESPIRATOR	1	2
c.	A SIMPLE DUST MASK	1	2
d.	GLOVES	1	2
e.	HEADGEAR	1	2
f.	FOOTWEAR	1	2
g.	FACE SHIELD	1	2
h.	DK	1	2