

**THE AMERICAN VETERAN
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SEGMENT TITLE: METHAMPHETAMINE ADDICTION

KANE FARABAUGH, HOST: METHAMPHETAMINE IS A POWERFULLY ADDICTIVE DRUG THAT HAS RUINED COUNTLESS LIVES. VA RESEARCHERS IN OREGON ARE WORKING ON CLUES AS TO WHY SOME PEOPLE BECOME ADDICTED AND OTHERS DON'T.

GREGORY MARK, ASSOCIATE PROFESSOR OF BEHAVIORAL NEUROSCIENCE, OREGON HEALTH & SCIENCE UNIVERSITY, PORTLAND, OR, VAMC: HE'S LEARNED THAT IF HE PRESSES THAT BAR, HE'LL GET METHAMPHETAMINE.

COKE ARIAL, REPORTER: METH ADDICTION HAS BECOME THE LARGEST DRUG PROBLEM IN THE US. WITH MORE PEOPLE USING METH THAN BOTH COCAINE AND HEROINE COMBINED. TO TACKLE THIS PROBLEM THE PORTLAND VA IN COLLABORATION WITH THE OREGON HEALTH AND SCIENCE UNIVERSITY, HAS CREATED THE NATIONS FIRST COMPREHENSIVE METHAMPHETAMINE RESEARCH CENTER.

AARON JANOWSKY, DIRECTOR, METHAMPHETAMINE ABUSE RESEARCH CENTER, PORTLAND, OR, VAMC: THE METHAMPHETAMINE RESEARCH CENTER IN PORTLAND HAS 20 INVESTIGATORS IN IT. THERE ARE MDS, PHDS, AND MD-PHDS.

ARIAL: THE CENTER IS UNUSUAL IN THAT BOTH SCIENTISTS AND CLINICIANS ARE WORKING TOGETHER, NOT ONLY TO UNDERSTAND THE CAUSES AND EFFECTS, BUT ALSO TO DEVELOP TREATMENTS.

WILLIAM HOFFMAN, STAFF PSYCHIATRIST RESEARCH CENTER, PORTLAND, OR, VAMC: I WAS IMPRESSED BY THE NUMBER OF PATIENTS WHO HAVE SIGNIFICANT PROBLEMS WITH METHAMPHETAMINE. AND THE PROBLEM SEEMED DIFFERENT FROM THE STANDARD SORTS OF THINGS THAT YOU SEE WITH ALCOHOL AND EVEN COCAINE.

ARIAL: YET, SURPRISINGLY, VERY LITTLE IS ACTUALLY KNOWN ABOUT METHAMPHETAMINE.

JANOWSKY: ACTUALLY THERE ARE NO APPROVED DRUG TREATMENTS FOR METHAMPHETAMINE ABUSE. NOT ONE. SO, IT'S VERY DIFFICULT TO TREAT THESE PATIENTS AND VERY EXPENSIVE. WE HOPE TO FIND REASONS OR PREDISPOSITIONS FOR PEOPLE WHO USE METHAMPHETAMINE. WHAT CAUSES THEM TO ABUSE THE DRUG?

ARIAL: WHILE UNDERGOING A FUNCTIONAL MRI -- OR FMRI -- SCAN THE RESEARCH SUBJECT IS GIVEN A BATTERY OF QUESTIONS TO STIMULATE THE DECISION MAKING AREAS OF THE BRAIN.

HOFFMAN: WHEN WE MAKE A FUNCTIONAL MRI, WE ESSENTIALLY TAKE A PICTURE OF THE BRAIN EVERY TWO SECONDS WHILE PEOPLE ARE DOING TASKS. WE STARTED LOOKING AT DECISION-MAKING TASKS THAT WE COULD

STUDY USING FMRI. AND WE SETTLED ON A TASK CALLED “DELAY DISCOUNTING.”

JANOWSKY: IF YOU GIVE A PERSON WHO ABUSES METHAMPHETAMINE A CHOICE, WOULD YOU RATHER HAVE A LITTLE BIT OF MONEY NOW OR A LOT OF MONEY AT SOME PERIOD OF TIME IN THE FUTURE, THEY’LL TAKE THE LITTLE BIT OF MONEY NOW.

HOFFMAN: WE THOUGHT WE COULD PROBABLY VISUALIZE THE BRAIN ACTIVITY BEHIND THAT DECISION-MAKING AND THE DIFFERENCE IN THIS DECISION-MAKING USING FMRI. WHAT WE FIND IS THAT PEOPLE WHO’VE NEVER BEEN ADDICTED ACTIVATE PARTS OF THEIR PREFRONTAL CORTEX. THE METH SUBJECTS HAVE TURNED OFF THEIR PREFRONTAL CORTEX. THEY’RE JUST NOT USING THEIR PREFRONTAL CORTEX ANYWHERE NEAR AS MUCH AS ARE THE CONTROL SUBJECTS. MOST PEOPLE WHO ARE ADDICTED TO DRUGS WILL TELL YOU THEY DON’T WANT TO BE ADDICTED TO DRUGS. BUT THEY FEEL LIKE THEY CAN’T HELP THEMSELVES. AND THAT’S PROBABLY, LITERALLY, TRUE.

MARK: THESE DRUGS ARE SO POWERFUL, THEY ACT ON THE BRAIN SO POWERFULLY THAT THEY ACTUALLY CHANGE THE WAY THE BRAIN WORKS. ONCE THAT CHANGE OCCURS, IT’S NOT A MATTER OF WILL POWER ANYMORE FOR THE PERSON TO BE TRYING TO KICK THE ADDICTION. IT’S A MATTER OF THE BRAIN HAS BEEN CHANGED.

FARABAUGH: RESEARCHERS HOPE THAT WITH A BETTER UNDERSTANDING OF THE DRUG AND ITS AFFECT ON THE BRAIN, BETTER TREATMENTS WILL BE DEVELOPED.

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