



AUDRINA VS. JORDIN
The reality star gave her Cut 25 by Yigal Azrouël dress edge with red sandals and a choker while the svelte singer chose simple pumps



NICOLE VS. KIM
The actress stood tall in her Lanvin gown and strappy sandals for a Beijing event, while the bride-to-be added a glittery clutch in Monaco.



MATCH SET
Elizabeth Hurley and boyfriend Shane Warne come color coordinated for a Geox shoes event in London.



CLAIRE VS. MIRANDA
The actress wore her Roland Mouret dress with ankle-wrap sandals for an awards show in Hollywood, while the super-model paired her shorter version with sexy pumps in Seoul.



HANDLE WITH CARE
Olivia Wilde puts her busy social life on the backburner, opting for a solo workout in Studio City, Calif.,



SHEER GENIUS

Anne Hathaway stays stylish in a sweet floral frock Wednesday while heading into a runway show during Paris Fashion Week.



KEEPING IT FLY
Eva Longoria wraps up her Spanish lovefest with boyfriend Eduardo Cruz (not pictured) as she makes her way through an airport in his native Spain

Pollution ‘can lead to brain damage and depression’

Long term exposure to air pollution could damage the brain and lead to learning and memory problems and even depression, new research has revealed. The tests on mice showed that in the long term dirty air could cause actual physical changes to the brain which in turn had negative effects. While other studies have looked at the impact polluted air has on the heart and lungs this is one of the first to look at the effect on the brain, lead author Laura Fonken noted. She said: “The results suggest prolonged exposure to polluted air can have visible, negative effects on the brain, which can lead to a variety of health problems. “This could have important and troubling implications for people who live and work in polluted urban areas around the world.”

Ms Fonken, a doctoral student, and her colleagues at Ohio State University exposed mice to either filtered air of polluted air six hours a day, five days a week for almost half their lifespan which was 10 months. The polluted air was the same as that created by cars, factories and natural dust and contained fine particulates about a thirtieth the size of a human hair, 2.5 micrometers, which can reach deep areas of the body’s organs. The concentration of particulates mimicked what humans are exposed to in some polluted urban areas, researchers claimed. In previous studies in mice it was found that fine air particulate matter caused widespread inflammation in the body and that it could be linked to high blood pressure, diabetes and obesity, and the researchers wished to expand on

these findings by looking at the brain. Professor Randy Nelson, a co-author, said: “The more we learn about the health effects of prolonged exposure to air pollution, the more reasons there are to be concerned. “This study adds more evidence of pollution’s negative effects on health.” After 10 months of exposure behavioural tests were carried out on the rodents including a learning and memory test where after five days of training they were placed on a brightly lit area and given two minutes to find the dark escape hole where they would be more comfortable. The mice who breathed the polluted air took longer to learn where the escape hole was and at later tests they were more likely to forget where it was. In another experiment, mice exposed to the polluted air showed more depres-

sive-like and higher levels of anxiety-like behaviours in one test, but not in another. To find out how the pollution led to changes in learning, memory and mood the researchers tested the hippocampal area of the mice brains and found clear physical differences. Ms Fonken said: “We wanted to look carefully at the hippocampus because it is associated with learning, memory and depression.” They looked at the dendrites, which are the branches that grow off of nerve cells or neurons, which have small projections growing off them called spines, which transmit signals from one neuron to another. Mice exposed to polluted air had fewer spines in parts of the hippocampus, shorter dendrites and overall reduced cell complexity.

They also discovered some inflammation in the hippocampus and more active chemical messengers that cause inflammation in the mice who breathed the polluted air. Professor Nelson said: “Previous research has shown that these types of changes are linked to decreased learning and memory abilities.” Ms Fonken added: “The hippocampus is particularly sensitive to damage caused by inflammation. “We suspect that the systemic inflammation caused by breathing polluted air is being communicated to the central nervous system.” The study appears online this week in the journal Molecular Psychiatry.