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[How the brain helps us deal with loss](#)

Researchers have pinpointed a chemical messenger in the brain that plays a crucial role in dealing with the long term separation or loss of a partner. By studying pairs of prairie voles, the scientists found that the reaction is different from other types of separation, such as from a sibling. The results are reported online in the journal *Neuropsychopharmacology*.

Prairie voles, unlike 95% of all mammalian species, are socially monogamous, forming enduring and selective bonds with their mates. Their behaviour makes them an excellent animal model for understanding the neurological mechanisms involved in social bonding, and study of these relationships has resulted in important insights into how humans form attachments with one another.

Oliver Bosch and colleagues demonstrate that activity of the chemical messenger corticotropin releasing factor (CRF) is elevated in an emotional centre in the brain of male pair bonded prairie voles compared to those housed with a male sibling. When the voles were

separated from their mate, the authors found changes in coping strategies, reminiscent of depression, that correlated with CRF activation that were not found in those separated from a sibling. In contrast pair bonded prairie voles that were treated with a substance that blocks receptors for CRF showed no evidence for depressive-like behaviour after separation.

They conclude that elevated CRF levels in pair bonded males cause the aversive emotional states associated with loss of a mate, and that the prairie vole model provides important insights into the psychopathological consequences of partner loss, with implications for bereavement in humans.

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