S-Nitrosylation, the covalent attachment of NO to a cysteine residue to form an S-nitrosothiol (SNO), (a posttranslational modification of protein cysteine thiol groups).

It operates as a fundamental mechanism for cellular signaling and accounts for the large part of NO bioactivity. S-nitrosylation is precisely targeted, reversible, spatiotemporally restricted and necessary for a wide range of cellular responses, including the prototypic example of red blood cell mediated autoregulation of blood flow that is essential for vertebrate life.