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**Salivary testosterone and cortisol in rugby players: correlation with psychological overtraining items.**

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**BACKGROUND:** A psychocomportemental questionnaire has been devised by the consensus group of the Société Française de Médecine du Sport to characterise and quantify, using a list of functional and psychocomportemental signs, a state of "staleness", for which no biological indicator is unanimously recognised.

**OBJECTIVES:** To determine the relation between this diagnostic method and two hormones (cortisol and testosterone) often used as indicators of a state of fitness or staleness. **METHODS:** The subjects were young rugby players. They were asked to complete the overtraining questionnaire and gave three saliva samples (at 8 am, 11 am, and 5 pm) during a rest day. Concentrations of cortisol and testosterone in the saliva were determined by radioimmunoassay. **RESULTS:** A preferential relation was found between the questionnaire score and testosterone concentration but not between the questionnaire score and cortisol concentration. **CONCLUSIONS:** The questionnaire may be a useful tool for screening subjects at risk of overtraining. Testosterone concentration is influenced by tiredness, and is therefore a valid marker of tiredness.

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