

# **Pan-retinal photocoagulation and other forms of laser treatment and drug therapies for non-proliferative diabetic retinopathy: systematic review and economic evaluation**

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## **Plain English summary**

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## Plain English summary

**D**iabetes is the leading cause of blindness in adults of working age.

Diabetic eye disease is called retinopathy. It can go through different stages to the sight-threatening stage known as proliferative diabetic retinopathy (PDR).

Proliferative diabetic retinopathy is treated by laser to preserve vision, once the retinopathy reaches an advanced PDR stage.

The question for this review is whether laser treatment at an earlier stage of retinopathy would be better than waiting until high-risk PDR develops. There are side events associated with laser treatment. These must be balanced against any benefits of treating earlier stages where the risks of blindness are lower.

Most of the evidence on treating at earlier stages comes from trials done in the 1980s using older lasers and does not provide enough evidence to recommend earlier treatment.

Treatment with newer laser machines may be as effective but safer and cause less discomfort. Side effects may be reduced by drugs injected into the eye. There are now better methods of monitoring treatment. These factors may support laser treatment at an earlier stage. That could be cost-effective compared to delaying treatment, but considerable uncertainties remain. We think that there should be a high-quality trial of laser treatment at an earlier stage, before high-risk PDR develops. The trial would include the use of modern lasers and drug treatment in the eye to reduce harm from pan-retinal photocoagulation.

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