

## I.8 Phototherapy combined with acitretin

Pearce DJ, Nelson AA, Fleischer AB et al. The cost-effectiveness and cost of treatment failures associated with systemic psoriasis therapies. J Dermatol Treat. 2006; 17(1):29-37. Ref ID: PEARCE2006{Pearce, 2006 PEARCE2006 /id}				
Study details	Population & interventions	Costs	Health outcomes	Cost effectiveness
<p><b>Economic analysis:</b> CEA</p> <p><b>Study design:</b> Simple decision model</p> <p><b>Approach to analysis:</b> Performed an unadjusted indirect comparison to estimate the mean effectiveness (defined as the proportion of patients achieving a PASI75 or total body clearance) of interventions; calculated costs for each intervention; combined costs and outcomes into a cost per additional 1% achieving PASI 75</p> <p><b>Perspective:</b> US third-party payer</p> <p><b>Time horizon:</b> 12 weeks</p>	<p><b>Population:</b> Patients with moderate to severe psoriasis</p> <p><b>Cohort settings:</b> Mean age range = 41 to 46 yrs M percent range = 61% to 83%</p> <p><b>Intervention 1:</b> Acitretin (25 mg/day)</p> <p><b>Intervention 2:</b> Cyclosporine (400 mg/day)</p> <p><b>Intervention 3:</b> Methotrexate (15 mg/week)</p> <p><b>Intervention 4:</b> Narrowband UVB(3 times/wk)</p> <p><b>Intervention 5:</b> PUVA (3 times / wk; 40 mg methosoxalen with each treatment)</p>	<p><b>Total costs (mean per patient):</b> Intvn 1: £910 Intvn 2: £1,580 Intvn 3: £280 Intvn 4: £1,704 Intvn 5: £2,514</p> <p><b>Currency &amp; cost year:</b> 2003 US dollars (presented here as 2003 UK pounds£)</p> <p><b>Cost components incorporated:</b> Acquisition cost of intervention, administration costs, screening and monitoring costs</p>	<p><b>Primary outcome measure:</b> Proportion achieving PASI75 or total body clearance</p> <p>Intvn 1: 52% Intvn 2: 83% Intvn 3: 70% Intvn 4: 72% Intvn 5: 84%</p> <p><b>Other outcome measures (mean):</b> None</p>	<p><b>Primary ICER</b> <b>Intvn 2 vs Intvn 3</b> (Cyclosporine vs Methotrexate): £100 per additional 1% achieving PASI 75 or total body clearance <b>Intvn 5 vs Intvn 2</b> (PUVA vs Cyclosporine): £934 per additional 1% achieving PASI75 or total body clearance</p> <p>Acitretin was dominated by Methotrexate and Narrowband UVB was dominated by Cyclosporine.</p> <p><b>Other:</b> None</p> <p><b>Subgroup analyses:</b> None</p> <p><b>Analysis of uncertainty:</b> The authors performed a deterministic sensitivity analysis varying efficacies by a factor of <math>\pm 5\%</math>. The results of this sensitivity analysis are not reported in such a way as to determine their likely effect on the basecase results.</p>

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**Treatment effect**

**duration:** NA

**Discounting:** Costs: NA;

Outcomes: NA

**Data sources**

**Health outcomes:** Effectiveness for each intervention (defined as the percentage of patients achieving PASI75 for systemic therapies or total body clearance for phototherapy) was estimated through a systematic review of randomised trial evidence. A weighted average proportion was calculated for each intervention by pooling the results of relevant trial arms (e.g. an unadjusted indirect comparison).

**Quality-of-life weights:** NA

**Cost sources:** Total costs for drugs were based on their wholesale acquisition cost from the *2003 Drug Topics Red Book*. Costs for clinical procedures such as administration of phototherapy and screening and monitoring were based on Medicare 2003 reimbursement rates (no reference cited). For drugs prescribed based on weight, the authors assumed a patient weight of 80 kg.

**Comments**

**Source of funding:** Galderma Laboratories

**Limitations:** The study was based on clinical practice in the United States, and although costs were based on Medicare reimbursement rates, it is unclear how applicable this would be to practice in the UK NHS. The study used the outcome of proportion achieving a PASI75 or total body clearance instead of the NICE preferred measure of QALYs. The treatment effect estimates were based on an unadjusted indirect comparison instead of meta-analysis or network meta-analyses. The time horizon of the analysis is 12 weeks, potentially too short to observe the full effectiveness of some interventions and insufficient to judge the longer term outcomes of treatment. Costs associated with treatment failures are ignored. There is no cost-effectiveness threshold for 'additional 1% achieving PASI75 or total body clearance' by which to judge the cost-effectiveness of interventions. The study was funded by Galderma Laboratories, but they are not makers of any of the compared interventions.

**Other:**

**Overall applicability\*:** Partially applicable    **Overall quality\*\*:** Very serious limitations