Treatment	Actinic (Solar) Keratoses
For the treatment of	**Actinic (Solar) Keratoses**
Background	From April 2013, NHS England took over responsibility for commissioning activity in primary care, where initial conservative treatment takes place. NHS Scarborough and Ryedale CCG is responsible for commissioning activity in secondary care, and this policy sets out the referral criteria for the referral to secondary care for the management of Actinic (Solar) Keratoses.
Definition	• Scaly, flat pink, red or brownish lesions, on any sun exposed skin from mid-life onwards • Typical areas affected are scalp in balding patients, upper pinna, temples, bridge of nose, anterior upper chest • Images – click here • Often multiple, with a dry adherent scale. They occasionally itch • Hyperkeratotic scale can form a cutaneous horn • The vast majority of actinic keratosis do not progress to squamous cell carcinoma (SCC). Evidence suggests that the annual incidence of transformation to SCC is less than 2%. This risk is higher in immuno-compromised patients • The majority of patients can be managed in primary care **Exclude Red Flag Symptoms** • Tender and/or indurated lesions are more likely to be SCCs or other significant pathology • Also if bleed spontaneously. Refer if querying SCC or concerns about malignant change
Management	• **See the Primary Care Treatment pathway attached to the end of this document** • Fluorouracil (Efudix®) is the most cost effective treatment. Its application and use needs care and there are a number of leaflets within the treatment pathway that help to explain this to patients. Apply every night for up to 4 weeks. Wash hands thoroughly after application. Leave treated areas uncovered and wash the following morning. Patients should be advised to expect a degree of redness and discomfort during the treatment period which can occasionally be severe. If this occurs the treatment can be stopped early and inflammation would generally settle over a 6 week period at which stage the skin should be reviewed • AKs can regress spontaneously especially if sun exposure is reduced • Do a full body examination for other sun induced lesions • For all patients advise them to avoid sun exposure by wearing hats and clothing, use sunscreens (SPF 50+) applied from April to October and re-apply frequently on sunnier days or when outside for longer periods. Re-inforce this frequently. • If the patient follows this rigorously may need Vitamin D measurement or supplementation – see formulary for guidance • Isolated well defined lesions: • Consider not treating – many regress spontaneously

	- *Cryotherapy* – not on lower legs (thermal injury takes too long to heal); 10-20 second freeze, depending on thickness; can be useful for thicker or resistant lesions
Referral Criteria	• Diagnostic doubt • Failure of 2 different treatments • Immuno-compromised patients
Information to include in referral letter	• Previous treatments tried and their effect • Photograph is desirable • Relevant past medical / surgical history • Current regular medication • BMI / Smoking status
Patient Information Leaflets	• Manufacturer Patient Information Leaflet (more detailed leaflet) • British Association of Dermatologists' Leaflet
Effective from	November 2014
Reviewed	April 2017
Review Date	2019
Contact for this policy	Service Improvement Team scrccg.rssifr@nhs.net

References:

1. Primary Care Dermatology Society

Actinic (Solar) Keratosis – Primary Care Treatment Pathway

An actinic keratosis (AK) is a common, sun-induced, scaly or hyper-keratotic lesion

AKs are a weak risk factor for skin cancer - less than 1 in 1000 per annum transform in to squamous cell carcinoma.

There is a high spontaneous regression rate.

23% of the population over 60 have AKs

When patients have multiple lesions the risk of one of them becoming malignant increases.

If a patient does not fall into high risk group, or have 'red flag' signs, treat in primary care. Treatment choice should be based on a range of factors:

- The grade of the lesion(s) – see next page
- The surface area of skin to be treated
- Whether the lesion(s) have been previously treated and what with

- **Topical Fluorouracil** is the cost effective treatment that with **clear advice** from GPs most patients tolerate well.
- **Fluorouracil 0.5% and salicylic acid** is the next most cost effective treatment
- **Ingenol gel** is suitable for patients who have tried fluorouracil or who cannot apply it themselves. It is almost double the price of fluorouracil.
- **Diclofenac gel** is slow to act and needs challenging compliance for 60-90 days. If two tubes are needed over this time it will cost more than Ingenol and its prolonged use risks generating more consultations than other treatments

Red Flag Signs – refer to secondary care as a priority cancer referral

Lesions that:

- Are rapidly growing
- Have a firm & fleshy base and/or are painful
- Do not respond to treatment

Identifying high risk patients - consider referral to intermediate care, secondary care or accredited GPwSI.

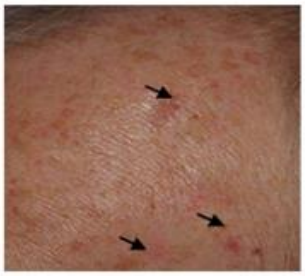
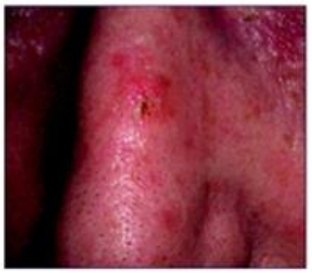
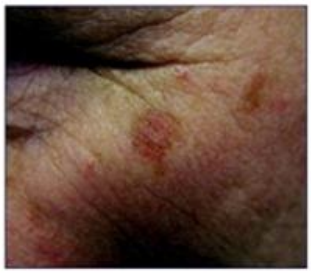
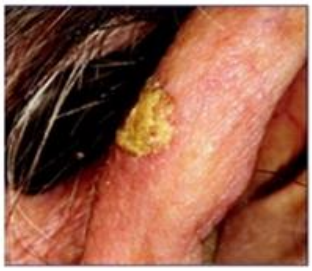
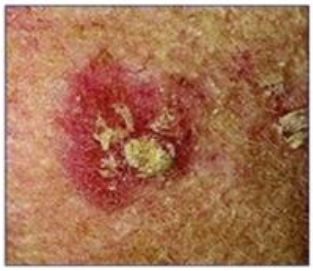
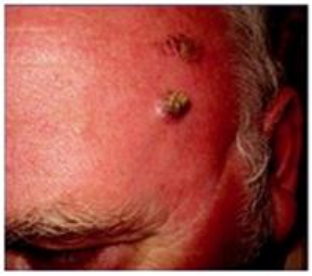
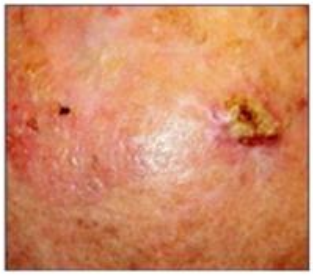
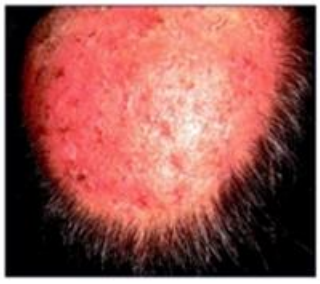
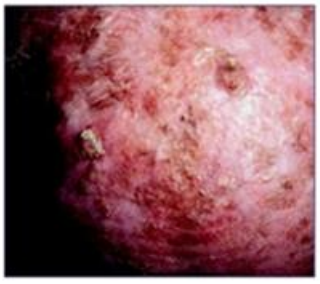
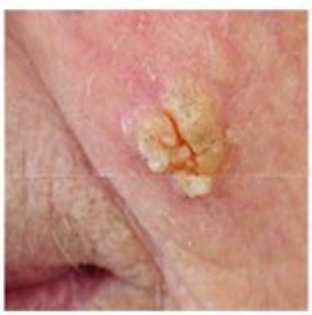
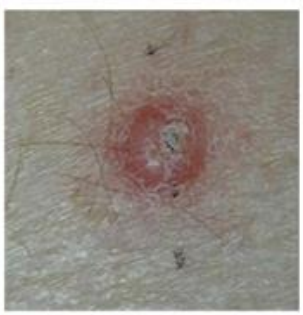
- Immunosuppressed patient
- Past history of skin cancer
- Extensive evidence of sun damage
- Patients with previous history of phototherapy
- Unexpectedly young patients
- Patients with xeroderma pigmentosum

General Measures

- AKs are a sign of sun damage so examine other risk areas– scalp ears face shoulders hands. Advise them they are likely to develop more.
- Encourage prevention: covering skin with hats and clothes and using sun screen (SP50) – children's tear free products can be readily applied to the whole face, powder dri isn't greasy Sunblock can treat early AKs
- Encourage reporting of change eg growth, discomfort, ulceration or bleeding and new lesions
- Encourage use emollients for symptom control and for dry, aging skin. This can help to distinguish between AKs and simple aging skin.
- Click here for Patient Leaflets on AK (BAD leaflet & Patient.co.uk leaflet), General Measures and UV avoidance

Grade of Actinic Keratosis and Treatment choices – see Table 1
Treatment Information – see Table 2

Grade of Actinic Keratosis and Treatment Choices – Table 1

Early Solar Keratosis		
Recommendation or Treatment medal ranking		
Needs no treatment other than general measures		
Grade 1		
Fluorouracil 5% cream	Single or few lesions, **better felt than seen**	 
Fluorouracil 0.5%, salicylic acid 10%		
Ingenol gel* see Table 2		
Diclofenac 3% gel		
Grade 2		
Fluorouracil 5% cream	Moderately thick lesions (hyperkeratotic), **easily felt and seen**	 
Fluorouracil 0.5%, salicylic acid 10%		
Ingenol gel* see Table 2		
If not improving send photograph to secondary care for advice		
Grade 3		
Send photograph to secondary care for advice	Thick hyperkeratotic or obvious AK, differential diagnosis cutaneous horn	 
Depending on local pathways curette or treat with cryotherapy in primary care or secondary care.		
Field Change		
Fluorouracil 5% cream – can be used to treat 500cm^2	Lesions grouped in same area, with marked background damage	 
Ingenol gel* see Table 2 - can be used to treat 25cm^2		
Diclofenac 3% gel – can be used to treat 400cm^2		
Possible Neoplastic Lesions		
Crusted, indurated and inflamed lesion could turn out to be early squamous cell carcinoma (SCC) – **urgent 2 week referral**		 

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Treatment Information for Topical Preparations

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Drug Name	Licensed Indication	Dose Directions	Area	Duration	Costs	Patient leaflet
Fluorouracil 5% cream (40g)	Topical treatment of superficial pre-malignant and malignant skin lesions; keratosis including actinic forms	Apply once or twice daily, start gradually until tolerance established	max. area of skin treated at one time, 500 cm^2 (e.g. 23 cm × 23 cm)	3-4 weeks	40g £32.76	PIL BAD
0.5% Fluorouracil and 10% salicylic acid (25ml)	Topical treatment of slightly palpable and/or moderately thick hyperkeratotic actinic keratosis (grade I/II)	Apply once daily unless side effects severe, then reduce frequency to 3 times a week until side effects improve	max. area of skin treated at one time, 25 cm^2 (e.g. 5 cm x 5 cm)	Up to 12 weeks	25ml £38.30	PIL BAD
Ingenol mebutate 150 micrograms/g gel (3 x 0.47g single use tubes)	Cutaneous treatment of non-hyperkeratotic, non-hypertrophic actinic keratosis in adults **on face and scalp**	Apply once daily	one tube covers a treatment area of 25cm^2 (e.g. 5cm x 5cm)	3 days	3 x 0.47g £65.00	PIL PCDS
Ingenol mebutate 500 micrograms/g gel (2 x 0.47g single use tubes)	Cutaneous treatment of non-hyperkeratotic, non-hypertrophic actinic keratosis in adults **on trunk and extremities**	Apply once daily	one tube covers a treatment area of 25cm^2 (e.g. 5cm x 5cm)	2 days	2 x 0.47g £65.00	PIL PCDS
Diclofenac 3% gel (50g, 100g)	Actinic keratosis in adults	Apply thinly twice daily	(Max 8g daily) Normally 0.5 grams (the size of a pea) of the gel is used on a 5cm x 5cm lesion site.	60-90 days	50g £38.30 100g £76.60	PIL

PLEASE NOTE:

- **All topical treatments cause inflammation, the mechanism by which they treat the condition.** If inflammation is severe then the treatments should be stopped until the reaction subsides and then restarted, perhaps at a reduced frequency. Patients MUST be warned to expect this effect of the treatment rather than regarding it as an unwanted side effect. 1% hydrocortisone cream can be used to settle inflammation if needed
- Complete clearance of lesions can be delayed several weeks beyond completion of topical therapies.
- Give patients the local leaflet and arrange review as guided