allabout **acne**

Acne news and evidence-based research for healthcare professionals curated by Australian dermatologists at All About Acne Spring 2021

spot on

What's in the journals

(Ones you might have missed and latest trends)

This issue's journal highlights have been curated by Dr JoAnn See, co-chair of All About Acne, and a dermatologist at Central Sydney Dermatology.

Dr See lectures internationally on acne and skin care. She is also a member of the International Global Alliance to Improve Outcomes in Acne, a body dedicated to advancing the <u>understanding of acne science.</u>



MicroRNAs could indicate the risk of acne scarring

It's common for patients to be concerned about the potential for scarring from acne.

This study by **Waseem Ghumra and colleagues** aimed to establish a **miRNA signature** for acne and acne scarring, and to determine whether people prone to scarring have circulating miRNA.

Micro (mi)RNAs are noncoding RNA molecules of 19-25 nucleotides that function as post-transcriptomic mediators of gene expression. They have demonstrated differential expression in different diseases, allowing for a unique miRNA "signature" profile to be established for different disease states.

This study found that three miRNAs, miR-223, miR-21 and miR-150, were overexpressed in acne lesions and in clinically uninvolved skin in participants prone to scarring. Patients with acne also had elevated levels of circulating miRNAs.

While this research is in its early stages, in the future a blood test could identify individuals at risk of scarring, so early intervention with effective therapy can target patients who are likely to scar. scarring emerging therapeutics *Endnote reference* 1

Nicotinamide may weaken the acne biofilm

Topical **nicotinamide** is a common treatment for acne, but its effect on the biofilm of Cutibacterium (C.) acnes hasn't yet been investigated.

This paper by **Yi-Hsien Shih and colleagues** examines the possible use of nicotinamide in the future as an agent to weaken the biofilm of C. acnes.

The authors found that nicotinamide weakened the biofilms of C. acnes, reduced its formation and increased its degradation. Nicotinamide also increased the efficacy of low-dose tetracycline against C. acnes.

This suggests a potential new way of fighting biofilm-related chronic cutaneous infections in the future. emerging therapeutics nicotinamide biofilm *Endnote reference* 2

The genetic influences behind acne

There are several factors that cause acne, including hormones, diet and lifestyle. Previous studies of families and twins have shown that genes also play a role.

Genetics is one of the key causes of acne and its severity. However, there have not been many reviews of the genes associated with acne.

This systematic review and meta-analysis of 51 articles by **Anna Hwee Sing Heng and colleagues** summarised the literature on the genes associated with acne, and the possible ways in which they affect its development.

They identified genes responsible for the function and activity of sebaceous glands or immune and inflammatory responses. It suggests that genes influencing inflammatory responses and sebaceous glands may influence acne development and severity.

Understanding the genetic factors behind acne can help us gain insights into the development of more effective treatments. causes of acne genetics Endnote reference 3

Spironolactone treatment could be a 'game changer'

Adult acne affects women's personal and professional lives and impacts their psychological health, a US study has found.

This qualitative study, published in JAMA Dermatology, involved 50 adult women aged 18-40 with moderate to severe acne.

Women reported being self-conscious about their appearance, lacking confidence, experiencing low mood and feeling socially isolated because of their acne.

Many women said it took years to find a doctor who listened to their concerns and helped them to find an effective treatment.

All About Acne co-chair Dr JoAnn See said Australian dermatologists were also seeing patients with hormonal acne and the same frustrations.

"We are definitely seeing many cases of hormonal acne. This is a group of women who really don't know why they've got it – episodic or chronic adult acne – and they're confused," she said.

"Part of the problem is that a lot of the information available to patients is not sciencebased, and promoted treatments can be very entrepreneurial: you have this course of laser or follow this skincare routine and you'll be fixed."

Many women falsely blamed their diet or skin hygiene, she said. Women with adult acne would benefit from safe, effective and readily available treatments, such as **spironolactone**, Dr See said. However, there's a lack of patient knowledge about the clinical treatments available.

"What we have found is that there's not a lot of knowledge out there about spironolactone, which has been around for a long time, and is a very safe and effective drug.

"Its onset can be quite slow, but it can be a huge game changer. It's cheap and it doesn't need monitoring," she said. spironolactone mental health quality of life Endnote reference 4



Sign up for regular acne research updates at www.acne.org.au.

The psychological impact of acne

Views and experiences of people with acne

Acne treatment is far more effective if individuals understand the need for longterm management and have a sense of control, a UK study has found. **Athena Ip and colleagues** from the University of Southampton in the UK conducted a systematic review of views and experiences of people living with acne, their carers and healthcare professionals.

The review included 20 papers from six countries and identified these major themes:



Frustrated by conflicting advice

There are a range of barriers to acne treatments, such as misleading information and advice.

Individuals were uncertain about the effectiveness of treatments, which was made worse by conflicting advice and support they received from others. People were seeking a greater sense of control over their condition.

Expecting a short-term 'cure'

People with acne tended to view their condition as short-term, and not something that needed long-term treatment. Acne was seen as a normal part of adolescence, so experiencing acne as adults was confusing and frustrating. There was an expectation that treatment would "cure" acne rather than manage it, so often people stopped treatment early if it didn't give instant results. People also tried to change their diet and hygiene practices in the hope of curing their acne.

Wanting greater control over acne and treatments

If treatments weren't seen as effective, many individuals felt powerless as believing in the treatment gave them a greater sense of control. Many people also chose to use complementary and alternative medicines and behavioural strategies to alleviate the psychological impact of acne. If they felt they had more control over their acne, this alleviated its impact whether the physical symptoms improved or not, and they were therefore more likely to adhere to treatment.

Frustrated by the lack of understanding of others

Patients were frustrated when they felt the impact of their acne wasn't recognised by others. Some family members implied self-blame by remarking that individuals hadn't "grown out of" their acne. The psychological impacts of acne included low self-esteem, feeling self-conscious, embarrassed and ostracised by a society saturated with images of perfect skin. It was common for people with acne to avoid social situations and have trouble with relationships. People with acne suffered self-blame and believed poor diet or hygiene might have caused their acne. They also believed some healthcare providers trivialised acne, so they avoided consultations and tried alternative treatments instead.

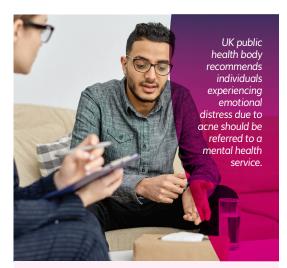
Concerned about adverse effects

People were uncertain about how effective their treatments were, and many were concerned about side effects. While many individuals saw oral isotretinoin as an effective treatment, they were concerned about the medication's potential side effects.



Key findings

This review highlights that individuals need reliable information about acne treatments, how to use them, how long they take to become effective, and how to manage side effects, the authors said. Patients also need support with the psychological impacts of their acne, and to have a sense of control over their condition and treatment. mental health quality of life Endnote reference 5



Counselling recommended in UK

It's not only severe acne that can affect selfimage: even mild acne can impact emotional wellbeing and how often people socialise.

The mental toll of acne has been recognised by a peak UK public health organisation, the National Institute for Health and Care Excellence (NICE), which gives guidance on public healthcare and practice.

Individuals experiencing emotional distress due to acne or acne scarring should be referred to a mental health service, NICE said in its recommendations.

Any individual may be distressed by their acne to the point where it interferes with their lives not only people with severe acne, NICE said.

"Consider referring people to a consultant dermatologist-led team if their acne of any severity, or acne-related scarring, is causing or contributing to persistent psychological distress or a mental health disorder," NICE wrote.

Counselling is especially important for anyone who is significantly distressed or who has a history of self-harm or suicidal ideation, severe depression or anxiety, or body dysmorphic disorder, NICE said.

Living with acne can take a toll on mental health, potentially lowering a person's selfesteem and taking away their confidence. The more severe the acne, the more it can affect self-esteem and daily mood.

Explaining why NICE made the recommendations, the committee wrote: "Acne vulgaris can have a psychological and social impact on people, potentially causing anxiety or depression. It can also exacerbate pre-existing mental health conditions.

"It's important to refer people to mental health services if there are serious mental health concerns to ensure people's safety. Awareness of possible mental health disorders or psychological distress, resulting in a need for referral to mental health services, is particularly important when considering this treatment." mental health quality of life Endnote reference 6



The psychological impact of skin conditions

A person's quality of life should be evaluated alongside their symptoms to identify the burden of disease and ensure they receive psychological treatment if needed.

That's the finding of a review by **Brigitte Dreno and colleagues** that looked at the impact of acne, atopic dermatitis, skin toxicities and scars on quality of life. These common skin conditions can cause depression, low self-esteem, isolation and poor quality of life, they wrote.

People with skin conditions have a much higher frequency of psychological distress and lower quality of life than people without acne, and adolescents are particularly at risk. Depression and anxiety are more common among people living with acne than in people with chronic diseases such as asthma, epilepsy, diabetes, back pain, arthritis, or coronary heart disease.

Skin conditions negatively impact self-image. Acne can cause feelings of isolation, loneliness, lower self-esteem, and lower body satisfaction. Visible scars from any cause have the greatest impact on quality of life, and patients may feel self-conscious and struggle with personal, work, and social relationships as a result, the authors said.

"Current approaches to treatment are often limited to the physical symptoms of skin conditions and do not sufficiently address the psychological ramifications," they wrote. A multidisciplinary approach that includes psychological support, rather than just treating the physical symptoms, would greatly benefit patients, they said.

"The relationship between acne and its psychiatric comorbidities is hugely disabling and ignoring this relationship during patient evaluations may result in under-treatment, poor adherence and treatment dissatisfaction, and contribute to an increased risk for anxiety, depression and impaired quality of life in the future." mental health scars quality of life quality of life atopic dermatitis burns skin toxicities Endnote reference 7



Frustrations faced by people with acne

The causes of acne and effective treatments are often poorly understood by the general population. Reliable information can help to dispel misconceptions about acne, encouraging individuals to seek treatment from healthcare professionals.

Without effective treatment, acne can cause scarring, dyspigmentation and long-term psychosocial impacts.

This study by **Jerry Tan and colleagues** examined the challenges and frustrations experienced by people with acne. They surveyed 1,000 young people aged 14-26 with moderate to severe acne, plus 2,000 people from the general US population.

Of those surveyed, 26% had never consulted a healthcare professional and 36% had never received a prescription for acne or acne scarring. Of those who had seen a medical professional, 72% consulted a dermatologist, 45% a primary care physician, and 23% a psychologist or psychiatrist.

Overall, the vast majority (94%) of young people with acne were unhappy with the advice they got from their doctor.

Among the general population who had given unsolicited advice to people with acne, the most common suggestions were to see a doctor (47%), change their hygiene habits (39%), or change their diet (37%).

The authors recommended that individuals be given more comprehensive information about the causes of acne and available treatments. mental health quality of life Endnote reference 8



Recruitment for study

Macquarie University in Sydney is recruiting young people aged 12 to 17 years into an online study for body dysmorphic disorder.



Body dysmorphic disorder study recruiting patients

Researchers at Macquarie University are conducting an online study examining factors associated with body dysmorphic disorder (BDD) in adolescents.

BDD is a debilitating mental health condition characterised by a preoccupation with perceived "flaws" in physical appearance. Research suggests that 8 to 15% of patients with acne meet the criteria for BDD.

Participation in this study involves a goldstandard diagnostic assessment with a clinical psychologist, and completing tasks and questionnaires. Results of these assessments will be provided to families in a written report, along with a \$30 gift voucher for participation.

This online study is available to adolescents and their families Australia-wide. All assessment sessions are delivered online via telehealth and provided to families free of charge. To be eligible to participate, young people must be aged between 12 and 17 years.

To find out more or make a referral, please contact bddproject@mq.edu.au



We're changing the face of acne treatment¹⁻⁵

The only acne treatment in Australia with the **fixed-dose** combination of an antibiotic and retinoid in an **easy-to-use, BPO-free** gel that works to improve acne.¹⁻⁵

PRESCRIPTION ONLY MEDICINE Nº OT # MACO DAMN Accinate Cindenyo (as phosphate) 1% w/w and retrigen 0.025% w/w Barger

Before prescribing; please review approved product information available via <u>medicines.org.au/i/view/gopacnatPl</u>

PBS Information: This product is not listed on the PBS. References: 1. Acnatac® Product Information. 2. Dreno B *et al. Eur J Dermatol* 2014; 24(2):201–9. 3. Octsendorf F. *JEADV* 2015;29(Suppl.5),8–13 4. Leyden JJ, Wortzman M. *Cutis* 2008;82:151–6. 5. Yentzer BA *et al. Cutis* 2010;86:103–8. Viatris Pty Ltd. Millers Point, NSW. ACN-2021-0113. July 2021. BPO, benzoyl peroxide.

Acne on social media



Acne educational content needed on TikTok

An analysis of acne videos on TikTok - the fastest growing social media platform worldwide - by Australian researchers has found that videos with poor quality medical information received more likes than those with reliable, accurate information.

Michelle Chen and colleagues analysed the most popular TikTok videos with the hashtags #isotretinoin, #accutane and #roaccutane.

Patients are increasingly looking for help with health problems on social media, said the authors from Liverpool Hospital, Sydney, and the University of New South Wales. With 63% of TikTok users worldwide under the age of 24, acne is a common health concern.

"However, misinformation can dissuade patients from pursuing treatment, particularly isotretinoin," the authors wrote in a letter to Clinical and Experimental Dermatology.

They found that videos with poor quality medical information had a higher number of "likes" than videos with no medical information, fair or good-quality information.

Video content was categorised according to previous treatments, history of acne, benefits of isotretinoin, adverse events, laboratory monitoring and dosing schedule.

There was a link between a video's popularity and the quality of its information.

"Compared with videos with no medical information, good-quality videos received about 90% fewer likes, fair-quality videos received 11% fewer likes, and poor-quality videos received 2.25 times more likes.

"Overall, TikTok was found to be an unreliable source of medical information on isotretinoin. However, as the fastest-growing social media app, its potential as an education tool for health-related content cannot be overlooked," the researchers said.

Ideally, content creators should direct patients to evidence-based resources from reputable organisations. Clinicians could also play a greater role on social media by promoting accurate health information and educating patients, they wrote. social media adolescents education isotretinoin accutane roaccutane Endnote reference 9





Maintain physical distance Wash your hands frequently Show kindness & solidarity #coronavirus | #COVID19

United Nation

Doctors need to embrace social media: Staff specialist

Doctors need to embrace and have a greater presence on social media, according to Dr Deshan Sebaratnam, a Staff Specialist at Liverpool Hospital and a Conjoint Senior Lecturer at UNSW. He is a senior author of a recent study on TikTok (refer above).

"People are going to social media for their health information and doctors need to inhabit that space," he said.

"Trying to tell patients not to source information from social media just won't work", he says. "It's important to have good resources that are scientifically sound out there, because not everyone's going to go and talk to their GP."

He says social media influencers aren't bound by the same restrictions as doctors, so they can post compelling before and after photos. Personal stories are powerful and people respond to that emotional connection, Dr Sebaratnam says.

"Seeing a person's journey as their acne gets better can be more meaningful to people than drier content from a doctor about statistics."

Acne can have a huge impact on self-esteem and watching someone else's shared experience in a TikTok video can be reassuring to others, he said.

Dr Sebaratnam's research interests include the role of social media and how this provides a platform for commentary on skin issues. He posts regularly on Instagram at @dr.deshan. [Image reproduced from Instagram with permission.]



TikTok popularity surges

TikTok's popularity continues to rise, with new data showing Australians are now spending more time on TikTok than YouTube.

The Music Network reports that in 2021, the average monthly TikTok usage was 16.8 hours, up from 7.9 hours in 2019. In comparison, the average time spent on YouTube was 16.3 hours, up from 14.9, according to App Annie's State of Mobile 2021 report.

App Annie said TikTok was on track to reach 1.2 billion users worldwide in 2021. In Australia last year, TikTok was the third most downloaded free app, after COVIDSafe and Zoom.

Younger people make up most of TikTok's users. A Roy Morgan survey in 2020 found that 2.5 million Australians used TikTok in a four-week period. Over 70% (1.78M) were either Generation Z (born 1991-2005) or Generation Alpha (born since 2006).

TOP 10Acne search terms
Australia, July-August 2021

(1) Acne

(2)

- 6 Pimple patch 7 Pimples on chin
- Acne treatment (3) How to get rid of pimples (8) Adult acne
- (4) Cystic acne
 - (9) Acne scars
 - (10) Back acne

Reference: Google

(5) Fungal acne



Do you have a question or special interest? Is there other information you'd like us to discuss?

Let us know what issues you'd like covered in the next issue of Spot On.

Spread the word by sharing on social media:



e hello@acne.org.au w acne.org.au



Beliefs and perceptions of acne among adolescents

In the first study of adolescents' perceptions of acne in Montenegro, **Milena Ražnatović Đurović and colleagues** surveyed 500 high school students.

Just under half, or 249 (49.8%), of the students reported having acne, but only 20% had sought medical help.

The study found that many adolescents held beliefs about acne that were "myths and misconceptions" without any evidence-based justification.

For example, 80% thought cosmetic treatment and drinking more water would improve acne, while 85% believed acne was caused by poor face washing. "These beliefs were shown to be similar to those of adolescents in other countries," they said.

In the last decade, observational studies, systematic reviews and meta-analyses have found that diet, hormones, genetics, emotional stress, and lifestyle factors were thought to play roles in acne, the authors wrote.

"More efforts are needed to educate pupils about acne aggravating and ameliorating factors, their health-related consequences, and the possibilities of effective treatment and control," the authors said. adolescents social media education Endnote reference 10



How people use social media to find acne information

Almost half of all people living with acne turn to **social media and the internet** to find information about their skin condition.

That's one finding of a Turkish study that investigated the social media habits of almost 1,500 individuals with acne.

Melek Aslan Kayıran and colleagues found that of the 1,489 individuals who used social media, 46% regularly and 28% sometimes turned to social media to find out about acne.

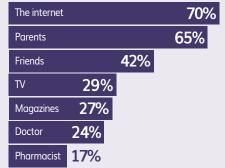
Social media usage among people with acne was significantly higher in women, people with short-term and severe disease, those with a moderate income, and those using topical treatment and cosmetics.

Individuals were unlikely to discuss the information with their doctor, and preferred to read content created by dermatologists. Of the people who participated in the study:

- 76% said they did not share information they found on the internet with their doctor
- 19% had tried to contact their dermatologist online
- 70% said they would prefer experts such as dermatologists post acnerelated content online

"Our study shows that people frequently resorted to social media to seek information about AV (acne vulgaris)," wrote the authors, from Istanbul Medeniyet University.

With the ever-growing presence of social media, there is a need for dermatologists to use social media to share accurate information about acne, they said. social media Endnote reference 11 Most common sources of information about acne:



The factors most often believed to aggravate acne were:

Inadequate face washing	85%
Hormones	84%
Sweets	82%
Greasy food	72%
Makeup	71%
Stress	67%

The factors most commonly believed to help acne:

Cosmetic treatment	80%
Drinking more water	77%
Adopting a healthier diet	77%
Being on school holidays	62%

Reference: Montenegro acne study (left)

Most-used platforms to find acne information





Reference: Turkish social media study (left)

Pediatricians are less likely to prescribe antibiotics or retinoids

Pediatricians have different prescribing patterns to dermatologists, according to US analysis of 30.5 million patient visits between 2006 and 2016.

The analysis by **Madison Jones and colleagues** found that pediatricians were 68% less likely to prescribe topical retinoids, 38% less likely to prescribe topical antibiotics, and 48% less likely to prescribe oral antibiotics.

"It is important to understand these differences in prescribing patterns for acne and to identify potential educational gaps," they wrote.

Just over half (52%) of visits were to dermatologists, 29% to pediatricians, and 19% to other healthcare practitioners.



Face masks worsen acne and rosacea

With growing awareness that masks appear to trigger acne flares, this Italian study showed that rosacea could also worsen with mask wearing.

Giovanni Damiani and colleagues looked at acne and rosacea flares triggered by maskwearing during lockdown.

This was a multi-centre observational prospective study of adults, observing untreated acne and rosacea patients in Milan who wore masks for at least six hours a day.

After six weeks of wearing masks during quarantine, individuals' acne and rosacea worsened, according to both self-reporting and the observations of their doctors.

As mask wearing is expected to continue for the foreseeable future, we could see more maskne and mask rosacea. The authors write that guidelines to support the diagnosis and management of these conditions will become even more important, and further studies are needed to understand why masks cause rosacea and to find the best therapeutic approaches. acne due to masks mask rosacea acne mechanica Endnote reference 12



Could a new generation of textiles prevent 'maskne'?

As COVID-19 restrictions continue and extended mask-wearing is expected to become more common, increasing numbers of people are experiencing "maskne". This is a term coined on social media for what is essentially a subset of acne mechanica, caused by wearing reusable fabric face masks. Fabric masks cause increased heat and moisture of the skin which, along with fabric-skin friction, can lead to maskne.

A new study by **Wan-Lin Teo** has looked at the microbiome of maskne and potential new therapies such as biofunctional textiles. While cotton masks are less irritating than reusable masks, they can still cause problems for people with acne if the face mask is worn for a long time. A new generation of fabrics known as biofunctional textiles, such as fabric containing silver or copper, could help stop flare-ups of maskne.

Textiles impregnated with silver showed significantly less Staphylococcus aureus and bacterial colonisation after two days of wearing the same mask without washing, compared with a placebo mask. Masks containing copper oxide may also have biocidal properties, and may even reduce the risk of hand or environmental contamination due to improper handling of masks. acne due to masks mask rosacea acne mechanica emerging therapeutics Endnote reference 13

A third of acne patients have had cosmetic procedures

Patients commonly use skincare products and cosmetic procedures as well as conventional drug therapy for acne vulgaris, Turkish researchers have found.

A survey of 1,755 patients with acne found that two thirds (66.7%) of patients reported using skincare products, while just over a quarter (26.7%) had undergone cosmetic procedures. A third (33.3%) of the participants had undergone procedures performed by non-physicians.

"Dermatologists should be aware of this situation and inform their patients about appropriate products and procedures," Melek Aslan Kayıran and colleagues wrote.



Word on the street

Anecdotal observations suggest that protein shakes drunk before or after workouts may cause back acne.

Does the dairy and sugar in protein shakes cause back acne?

People who consume a lot of protein supplements may have an increased risk of developing acne.

Anecdotal observations among patients suggest that protein shakes commonly drunk before or after workouts may cause back acne, especially in men. That may be due to the high sugar load or protein load these supplements contain.

Research has shown that a high intake of dairy and sugar, and foods with a high glycemic index, can cause acne breakouts.

If patients have back acne, it may be worth asking whether they regularly drink protein shakes and, if so, discussing alternative options or referring them to a dietitian.



Young transgender patients undergoing masculising hormone therapy commonly experience acne

Acne increases during masculinising hormone therapy

Acne is a common condition among transgender patients who use masculinising hormone therapy, or MHT.

That's the finding of a US study of 988 young adults with an average age of 25, and whose assigned sex at birth was female.

Before starting MHT, 6% of participants had acne. Once MHT was started, 31% of individuals reported having acne, and that rate dropped to 25% two years after MHT began.

The earlier MHT was begun, the higher the likelihood of developing acne, the authors wrote in JAMA Dermatology. "Patients aged 18 to 21 years appear to be the most likely to develop acne after MHT initiation," they said. hormones Endnote reference 14



Managing acne in general practice

GPs are often the first healthcare professional people talk to if they have a skin concern. Dermatologists from All About Acne regularly participate in forums with GPs and other healthcare practitioners. Here are some acne Q&As from a recent GP forum.

Q. Does cigarette smoking influence acne?

A. Yes. According to one study into the link between acne and smoking in men, the risk of acne was 2.12 times more in smokers than in non-smokers. (International Journal of Research in Dermatology 2017 June 196201)

Q. Is there a genetic factor? Is acne hereditary?

A. Yes, there's a strong hereditary link in acne. The prime driver of acne is sebum production, and the size, volume and efficacy of sebaceous glands all have an impact on sebum production. Whether people have these types of oil glands is frequently hereditary. For example, it's not at all unusual for teenagers with severe acne to have a strong history of acne in the family.

Q. Do acne patients need to take vitamin supplements?

A. While isotretinoin is based on oral vitamin A, you would need to have enormous volumes of oral vitamin A to have an impact on sebaceous gland activity. The side effects of isotretinoin are the same side effects of vitamin A. Therefore, higher dose vitamin A will lead to side effects. As for vitamins B, C, D, and E – our answer is no. Advocating low glycaemic diets and low milk diets are preferable. Weight reduction also reduces sebaceous gland activity.

Q. What are the recommended acne websites?

A. All About Acne's website - www.acne.org.au - provides evidence-based information for patients about skin health and acne. All content is written by and approved by Australian dermatologists.

Q. Can wheat or gluten cause acne?

A. There is no evidence that wheat or gluten cause acne.

Q. What is the role of laser treatment in acne management?

A. There is no real role for laser treatment in the management of acne. However, there is a role for laser treatment in acne scarring. However, acne needs to be totally quiescent for at least six months before any scar management activity.

Have a question?

Do you have an acne question you'd like answered? Or are you a GP with a special interest in acne that would like to profile an aspect of your work, a challenging case, or perhaps an article of interest? We'd love to hear from you. Our next issue will be released in Dec 2021. Email any questions or editorial suggestions to hello@acne.org.au.

TGA warning about potentially fatal minocycline side effect

A death from the tetracycline antibiotic minocycline has prompted the Therapeutic Goods Administration to warn doctors about potential side effects of the drug. The TGA is updating the drug's product information to include information about agranulocytosis, a rare but potentially fatal condition involving a dangerously low white blood cell count.

Four cases of agranulocytosis following treatment with minocycline have been reported, the TGA said in a statement. One was a fatal case reported as tetracyclineinduced agranulocytosis. "Prescribers should be aware of the potential risk of agranulocytosis associated with minocycline and the importance of early recognition and monitoring of full blood count and liver function tests during treatment," the TGA said.

"Prior to treatment with minocycline, patients should be made aware of the risk, including signs and symptoms, and what to do in the event of suspected agranulocytosis." Agranulocytosis is a rare but serious condition that occurs when the bone marrow





A passion for birthmarks

Skin problems are anything but superficial or trivial, and they can have a huge impact on someone's quality of life, self-esteem and confidence.

"It's really gratifying being able to make a positive impact on someone's life so tangibly when you see their improvement," says dermatologist Dr Deshan Sebaratnam.

"Dermatology is probably one of the most diverse specialties in medicine," he says. "There are more than 3,000 skin diseases, and every patient is different and every day is different. I might see someone who's two days old, and straight after someone who's 92 years old."

As a medical student, Dr Sebaratnam did a research year in dermatology – and that sparked his interest in the specialisation.

Now a Staff Specialist at Liverpool Hospital in Sydney and a Conjoint Senior Lecturer at UNSW, Dr Sebaratnam has research projects underway in health economics, inflammatory skin diseases and pediatric dermatology, in addition to clinical interests in birthmarks and genetic skin diseases.

"My passion is birthmarks. When most people think of birthmarks they'll just think of a little beauty spot, but a birthmark is too much of any particular substance in the skin. That can be too much pigment, but it can also be too many blood vessels or nerves, or too much muscle. Often birthmarks are harmless, but sometimes they can also be a clue to other internal problems."

Dr Sebaratnam posts regularly on Instagram at @dr.deshan.



Sign up to receive regular acne news and evidencebased research updates from All About Acne. Register at www.acne.org.au or email us at hello@acne.org.au.

doesn't make enough white blood cells called granulocytes. Signs and symptoms of agranulocytosis include fever, chills, weakness, mouth sores, bone pain and trouble breathing.

Minocycline is a tetracycline antibiotic used to treat acne that's resistant to other antibiotics, as well as other infections. It's marketed in Australia under the tradename Minomycin and the generic brand Akamin.

Read more: <u>TGA warning on minocycline and</u> agranulocytosis.

Psychological effects of isotretinoin investigated

A systematic review by Savitri Chandrasekaran and colleagues assessed the relationship between isotretinoin and psychiatric side effects in acne patients.

Out of the nine relevant studies, two concluded that isotretinoin could cause psychiatric effects, mainly depression and suicide attempts.

The researchers said there was some evidence of a link between isotretinoin and psychological effects, but added that the study was limited by a lack of adequate sample size and the absence of randomized controlled trials. Further research with larger sample sizes and over longer periods was needed to uncover why some patients have these side-effects while others didn't, they said.

Meet the team at All About Acne

Spot On is a quarterly news and research publication produced for healthcare professionals by a team of senior Australian dermatologists at All About Acne. Meet the team and learn more about our mission and purpose below.



Dr JoAnn See, MBBS (Hons), FACD Dermatologist, Sydney All About Acne Co-Chair



Dr Mei Tam, MBBS, FACD Dermatologist, Melbourne



Clinical Associate Professor Kurt Gebauer, MBBS, FACD, FACP Dermatologist, Fremantle All About Acne Co-Chair



Dr Brian De'Ambrosis, MBBS, FACD Dermatologist, Brisbane



Dr Priya Selva-Nayagam, MBBS, FACD Dermatologist, Adelaide

All About Acne

Australian dermatologists.

with, or interested in, acne.

All About Acne is a not for profit

It provides independent, evidence-

based news and information on the

management of acne for healthcare

professionals (HCPs) and people living

All About Acne publishes a website for

a quarterly news publication for HCPs

organisation run by a team of leading



Dr Lee-Mei Yap, MBBS (Hons), FACD Dermatologist, Melbourne



Dr Philip Tong, MBBS (Hons), PhD, FACD Dermatologist, Sydney



Associate Professor Greg Goodman, MBBS (Hons), GRADDIP, FACD, MD Dermatologist, Melbourne



Dr Lisa Byrom, BPhty, MBBS, MPhil, FACD Dermatologist, Brisbane

(Spot On) and a monthly eDM for HCPs (coming soon). It also posts acne content on Twitter, Facebook and Instagram (@AllAboutAcneAU).

Get in touch at hello@acne.org.au or register for updates at acne.org.au. You can also follow us on Twitter, Facebook and Instagram @AllAboutAcneAU.



Endnote References

- MicroRNAs as Biomarkers of Atrophic Scarring in Acne; a Cross-sectional Analysis of 41 Patients. Ghumra W, Lee N, Whitehouse H, Bhutani R, Lagos D, Layton AM. Clin Exp Dermatol. 2021 Jun 8. doi: 10.1111/ced.14792. Online ahead of print. PMID: 34101224
- 2 Activation of Deoxyribonuclease I by Nicotinamide as a New Strategy to Attenuate Tetracycline-Resistant Biofilms of Cutibacterium acnes. Shih YH, Liu D, Chen YC, Liao MH, Lee WR, Shen SC Pharmaceutics. 2021 May 31;13(6):819. doi: 10.3390/ pharmaceutics13060819. PMID: 34072745 Free PMC article.
- 3 Gene variants associated with acne vulgaris presentation and severity: a systematic review and meta-analysis. Heng AHS, Say YH, Sio YY, Ng YT, Chew FT. BMC Med Genomics. 2021 Apr 13;14(1):103. doi: 10.1186/s12920-021-00953-8. PMID: 33849530; PMCID: PMC8045239.
- Patient Perspectives on the Lived Experience of Acne and Its Treatment Among Adult Women With Acne: A Qualitative Study. Barbieri JS, Fulton R, Neergaard R, Nelson MN, Barg FK, Margolis DJ. JAMA Dermatol. Published online July 28, 2021. doi:10.1001/ iamadermatol.2021.2185
- 5 Views and experiences of people with acne vulgaris and healthcare professionals about treatments: systematic review and thematic synthesis of qualitative research. Ip A, Muller I, Geraghty AWA, Platt D, Little P, Santer M. BMJ Open. 2021 Feb 1;11(2):e041794. doi: 10.1136/bmjopen-2020-041794. PMID: 33526498 Free PMC article.
- 6 Acne vulgaris: management NICE guideline [NG198] Published: 25 June 2021
- The Impact of Acne, Atopic Dermatitis, Skin Toxicities and Scars on Quality of Life and the Importance of a Holistic Treatment Approach. Dreno B, Amici JM, Demessant-Flavigny AL, Wright C, Taieb C, Desai SR, Alexis A. Clin Cosmet Investig Dermatol. 2021 Jun 14;14:623-632. doi: 10.2147/CCID.S315846. eCollection 2021. PMID: 34163201 Free PMC article. Review
- Concerns, Expectations, and Management Gaps 8 Relating to Acne and Associated Scarring Identified from Survey Data. Tan J, Chien AL, York JP, Layton AM. J Drugs Dermatol. 2021 Jun 1;20(6):600-606. doi: 10.36849/JDD.2021.5920. PMID: 34076398
- 9 Isotretinoin on TikTok: Misinformation getting under our skin. Chen MKY, Garden F, Sebaratnam DF. Clin Exp Dermatol. 2021 Jun 22. doi: 10.1111/ced.14810. Online ahead of print. PMID: 34155690
- 10 Adolescents' beliefs and perceptions of acne vulgaris: A cross-sectional study in Montenegrin schoolchildren. Ražnatović Đurović M, Janković J, Đurović M, Spirić J, Janković S. PLoS One. 2021 Jun 16;16(6):e0253421 doi: 10.1371/journal.pone.0253421. eCollection 2021. PMID: 34133464 Free PMC article
- 11 Social media use in patients with acne vulgaris: What do patients expect from social media? Aslan Kayıran M, Karadağ AS, Alyamaç G, Çevirgen Cemil B, Demirseren DD, Aksoy H, Oğuz Kılıç S, Taş Demircan Y, İnan Yüksel E, Kalkan G, Yaşar G, Şikar Aktürk A, Kutlu Ö, Altıntaş Kakşi S, Elibüyük Aksaç S, Kaya Erdoğan H, Kaya Özden H, Sarıkaya Solak S, Koska MC, Yazıcı S. J Cosmet Dermatol. 2021 Jun 4. doi: 10.1111/ jocd.14272. Online ahead of print. PMID: 34087036
- 12 The "Maskne" microbiome pathophysiology and therapeutics. Teo WL. Int J Dermatol. 2021 Jul;60(7):799-809. doi: 10.1111/ijd.15425. Epub 2021 Feb 12. PMID: 33576511 Free PMC article. Review.
- 13 COVID-19 related masks increase severity of both acne (maskne) and rosacea (mask rosacea): Multicenter, real-life, telemedical, and observational prospective study. Damiani G, Gironi LC, Grada A, Kridin K, Finelli R, Buja A, Bragazzi NL, Pigatto PDM, Savoia P. Dermatol Ther. 2021 Mar;34(2):e14848. doi: 10.1111/dth.14848. Epub 2021 Feb 19. PMID: 33533563 PMCID: PMC7995182
- 14 Incidence and factors associated with acne among transgender patients receiving masculinizing hormone therapy. Thoreson N et al. JAMA Dermatol. 2021:157(3):290-5. PMID: 33471082