Calvine Partners

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Diurnal Group

16 September 2020

Share Price	**59p**
CP Fair Value	**99p**

Market Cap (£m)	69
Net Cash (£m)	15
Enterprise Value (£m)	54

Country	UK
Code	DNL
Index	FTSE AIM

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Wake up, time to fly

Diurnal has successfully followed a fast to market approach with Alkindi, its child optimised preparation of hydrocortisone. Sales are progressing well as new territories achieve reimbursement. The attraction of Eton Pharmaceuticals to develop the Alkindi US market opportunity provides third-party validation ahead of the likely US approval. Furthermore, the implementation of a European self-marketing strategy leaves the company well placed for the anticipated approval of Chronocort, a treatment for the larger adult CAH market which mimics its circadian release profile. Chronocort is a larger opportunity, and we look forward to EU approval as well as a partner to capitalise on the increasingly competitive US CAH opportunity. Elsewhere, we have seen an important glimpse of the superior profile of native testosterone (DITEST), as the market looks for an effective and convenient testosterone replacement therapy to transform treatment of this large and needy patient population.

All about the adrenal franchise for now

Diurnal's ambition is to become a leading (non-diabetes) endocrinology specialty pharma business. First up has been the approval of Alkindi in Europe and imminently in the US. Eton Pharmaceuticals provides a strong partner for Alkindi in the US, and we look forward to accelerating revenues in both geographies. The development of Chronocort has been frustrating to the extent that the Phase 3 primary endpoint was not met. However, this was the most extensive interventional study in the CAH patient population, and much has been learnt during the process. Management has considerable confidence in the totality of the Chronocort data – including the extension study - and we look forward to the likely EMA approval and confirmation of Orphan Drug Status for CAH in Q1 2021. The US Phase 3 study is ready to go but requires an appropriate partner to risk share and provide funding. Nevertheless, with a commercial platform already in Europe, we look forward to Diurnal achieving sustainable profitability. Sticking with the adrenal (low cortisol) franchise, the development of Chronocort for the larger adrenal insufficiency market looks like a relatively straightforward line extension. However, the US will inevitably be more involved and we anticipate that a partner will be key to progress in this important market.

Deeper endocrine pipeline emerging

Increasingly the pipeline is coming to the fore with positive data from the testosterone replacement therapy DITEST. This is a significant market opportunity with an unmet need for safer, more convenient alternatives and DITEST showing potential to provide a best in class addition. With a streamlined branded generic regulatory pathway on offer, we look forward to the attraction of a suitable partner to progress DITEST for classical male hypogonadism. **Our DCF suggests an NPV of 99p.** For Risks see page 19.

Focusing on endocrinology ex diabetes

Diurnal's stated objective is to become a meaningful participant in the large endocrinology therapeutic area, without competing in the highly competitive diabetes category. The endocrine system is multi-faceted and influenced by various hormones which control, as well as co-ordinate, the human metabolism. This system ensures appropriate levels of energy production, growth and development, sleep, as well as the body's response to injury, stress and environmental factors.

The endocrine system performs a wide range of functions

Gland	Hormone	Action	Disorders
Adrenal glands			
Cortex	Glucocorticoids	long term stress response, increased blood glucose blood volume maintenance, immunosuppression	CAH, AI/ Addison's disease, Cushing's disease
	Mineralocorticoids	long term stress response, blood volume and pressure maintenance, sodium and water retention	
Medulla	Adrenaline	short-term stress response, increased blood sugar levels, vasoconstriction, increased heart rate, blood diversion	
Thyroid gland	T3 triiodothyronine/T4 Thyroxin	Increases metabolism, blood pressure, regulates tissue growth	Hypothyroidism (T4 non-responders)/ Hashimoto's disease. Hyperthyroidism/ Grave's disease
	Calcitonin	regulation of blood calcium levels and bone metabolism	Hypercalcaemia. Osteoporosis
Parathyroid	PTH	Increases blood calcium levels	Osteoporosis
Pituitary gland	Oxytocin	starts labour and milk ejection	Sheehan syndrome
	Antidiuretic hormone	stimulates water resorption by kidneys	
	Growth hormone	stimulates growth	Acromegaly/ loss of muscle mass. Dwarfism
	Prolactin	promotes lactation	
	FSH	stimulates follicle maturation, key determinant of fertility, eostrogen productioin, stimulates sperm production	Infertility
	LH	triggers ovulation and production of oestrogen and progesterone by ovary, promotes sperm production	Infertility
	Thyroid stimulating hormone	stimulates release of T3 & T4	
	Adrenocorticotropic hormone	promotes release of glucocorticoids and androgens from adrenal cortex	
Gonads			
Testes	Androgens	reproductive maturation, sperm production	Hypogonadism
	Oestrogens	reproductive maturation, regulation of menstrual cycle	
	Progesterone	regulation of menstrual cycle	
Hypothalamus	Oxytocin	transported to pituitary	
	Antidiuretic hormone	transported to pituitary	
	Regulatory hormones	regulate pituitary to produce/ inhibit hormone synthesis	
Pancreas	Insulin	Lowers blood sugar levels	diabetes/ hypoglycaemia
	Glucagon	Increases blood sugar levels	diabetes/ hypoglycaemia
Thymus	Thymosin	development of T-lymphocytes	

Source: Calvine Partners Research

Endocrine disorders often treated by replacement therapy

Generally speaking, many disorders of the endocrine system are caused by either too little or too much hormone, and/or the inability of normal levels to have the desired effect. For disorders where there is too little or no hormone present, pharmaceutical intervention can be relatively straightforward with replacement therapy often the easiest treatment option. Diabetes is a good example, where insulin (in many different guises) remains the mainstay of treatment. Insulin is often complemented by therapies which seek to promote the production of endogenous insulin, improve the ability of the body to respond to insulin, or help the secretion of glucose.

An initial focus on cortisol deficiency

Diurnal focused on less competitive indications

Diurnal has wisely chosen to focus outside the highly competitive diabetes indication – a market dominated by the pharmaceutical majors. The initial focus for Diurnal has been on disorders of the adrenal gland and in particular patients who suffer from a lack of cortisol. As its name suggests, the adrenal gland sits atop the kidney and provides various functions, many of which are essential for life. The adrenal cortex produces cortisol and aldosterone, whereas the adrenal medulla produces adrenaline. The release of hormones by the adrenal cortex is activated by the hypothalamus and pituitary gland. When the hypothalamus produces corticotrophin-releasing hormone (CRH), it stimulates the pituitary gland to release adrenal corticotrophic hormone (ACTH). These hormones act on the adrenal glands to produce corticosteroid hormones.

Cortisol functions

Cortisol - an essential hormone

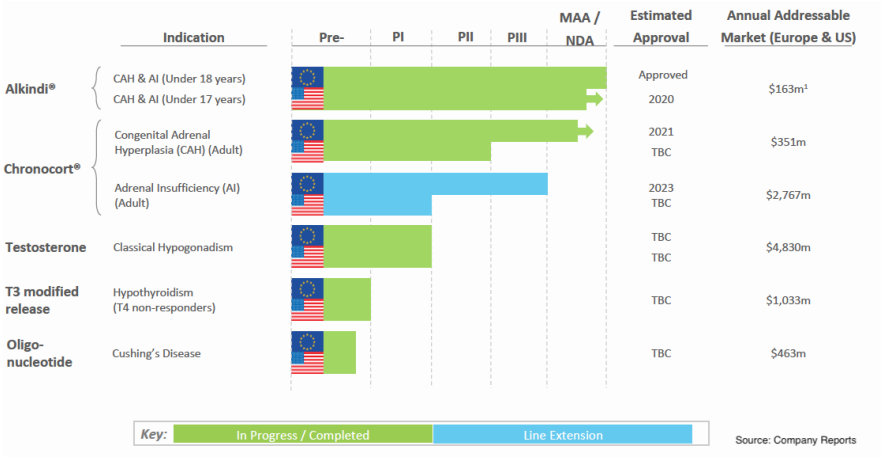
Cortisol is best known for its involvement in the fight or flight response. However, this significantly underestimates its importance and its essential role in human metabolism. Cortisol has many functions in the human body, such as mediating the stress response, regulating metabolism, the inflammatory response, as well as the immune system. Moreover, receptors which bind cortisol are present in most organs and tissues further emphasising the importance of maintaining adequate control of this important steroid hormone. Both production and secretion of cortisol are regulated by the hypothalamus-pituitary-adrenal axis.

Congenital Adrenal Hyperplasia

CAH is an orphan disorder

Loss of regulation can lead to disorders of cortisol deficiency such as Addison's disease (adrenal insufficiency), or too much cortisol resulting in Cushing's syndrome. Unsurprisingly, both of these are programmes of interest for Diurnal, however, the initial focus has been the treatment of children and adults suffering from the genetic disorder congenital adrenal hyperplasia (CAH). Fortunately, CAH is an autosomal recessive genetic disorder and consequently qualifies as an orphan disorder, which provides various benefits including extended data exclusivity as well as flexible pricing.

Diurnal's significant pipeline opportunities



Diurnal's Alkindi is already approved

There are certainly plenty of unmet needs for Diurnal to target with the lead cortisol deficiency programme (Alkindi) already benefiting from an approval (albeit in a modest category). More importantly, Chronocort is moving towards regulatory action in Europe in the needy orphan indication of adult congenital adrenal hyperplasia (CAH). If successful, this should also serve to de-risk the larger adrenal insufficiency indication. The second therapeutic category of testosterone replacement is gaining in importance following the publication of positive proof of concept data confirming its differentiated profile, which should provide Diurnal with the means with which to attract a partner. Finally, the earlier stage pipeline is becoming more prominent which includes early stage programmes targeting hypothyroidism and Cushing's disease.

A clear investment case

On the face of it, the near-term Diurnal investment case is relatively straightforward. Diurnal has identified a fast to market approach with Alkindi, an approved child-appropriate formulation of hydrocortisone for patients with cortisol deficiency. Prior to the approval of Alkindi, there were no hydrocortisone preparations approved specifically for children, with the market dominated by unlicensed compounded products which contained variable hydrocortisone doses.

Pricing power and existing sales platform

Alkindi pricing has been encouraging

We have been pleasantly surprised by the apparent pricing power of Alkindi, with Europe usually a challenging pricing environment for pharmaceuticals at the best of times. Nevertheless, it is heartening to see that there is a clear need for a predictable dosing presentation of cortisol to replace the compounded and highly variable product used previously. In Europe, Diurnal has retained marketing rights to Alkindi, using Ashfield to help establish a commercial platform. Unsurprisingly, European reimbursement has been a protracted process, but pricing has been in line with expectations. In Q1 2021, assuming the EMA gives a positive opinion on the Chronocort CAH regulatory filing, Diurnal should be well placed to expeditiously launch Chronocort through the existing endocrinology sales platform.

Eton Pharmaceuticals can develop the US market

The attraction of specialty pharma company Eton Pharmaceuticals brings a highly appropriate partner for the US market we believe. Eton has a focus on hospital-based products, including paediatrics and endocrinology. Approval of Alkindi in the US market for CAH is imminent (Action date 29 September), and we look forward to Eton developing what is a poorly understood market which could be significantly higher than the $25m market that Diurnal has previously suggested. On this front, we note that licensing partner Eton Pharmaceuticals has suggested a significantly higher market potential at $100m.

Chronocort's potential in congenital adrenal hyperplasia (CAH)

Chronocort targets a much larger market

While Alkindi has proven to be successful in providing a fast to market approach for Diurnal, we believe that significantly greater market potential lies with the adult hydrocortisone preparation Chronocort. Chronocort's objective is to replicate the physiological release of cortisol in patients with disorders (like CAH) which are characterised by low cortisol levels. Consequently, the initial focus of the development efforts for Chronocort has been on adrenal gland disorders and principally the orphan genetic disorder CAH.

Chronocort line extension into AI should be possible

Longer-term, we believe that success in CAH unlocks the potential in other similar but larger disorders such as adrenal insufficiency (AI). In Europe, for example, the development pathway for Chronocort into AI looks relatively straightforward as a line extension to the CAH indication (once approved).

The vast majority of individuals with CAH suffer from 21-hydroxylase deficiency which renders them unable to synthesise cortisol. To resolve this deficiency, the body increases the production of precursors of cortisol, including CRH (cortisol releasing hormone) and ACTH (adrenocorticotropic hormone). However, instead of cortisol production, sufferers are instead faced with excess production of male sex hormones (androgens). Unsurprisingly, this has a devastating impact on females (virilisation) and results in early puberty, short stature and acne in both sexes. Additionally, circa two-thirds of CAH patients are also unable to produce enough aldosterone to maintain sodium balance (salt wasters) and suffer from low blood pressure as a result.

CAH symptoms can be life-threatening

The US market could be much bigger than estimates suggest

Moreover, patients with low cortisol levels present with a broad range of symptoms. These include fatigue and a loss of appetite with nausea and vomiting combined with diarrhoea, which leads to a significantly impaired quality of life. While these symptoms are challenging enough, it is important to recognise that there is also a more sinister complication. With little warning, patients have the potential for an (acute) adrenal crisis (often during a period of significant stress). An acute adrenal crisis represents a life-threatening emergency and requires urgent treatment with a bolus of hydrocortisone. As mentioned previously, CAH is an orphan disorder with circa 50k patients in Europe and 20k in the US. Despite this apparent demographic imbalance, we suspect that the lack of an effective therapy means the US probably represents a larger market than figures suggest. Indeed, it is well established that only when effective therapies for orphan disorders become available that more effort is made to identify patients and improve diagnosis.

Current CAH standard of care is lacking

Management of the underlying disorder is therefore key, and replacement therapy, involving the administration of exogenous hydrocortisone, has been the mainstay of treatment historically. Current standard of care involves multiple daily doses of generic hydrocortisone tablets, which fail to provide a good substitute for normal circadian release.

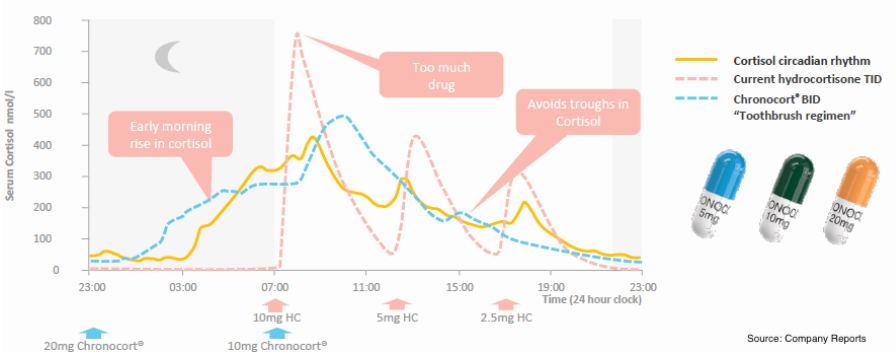
The administration of exogenous hydrocortisone has already transformed the lives of individuals with adrenal insufficiency. There is, however, a growing body of evidence suggesting a need for

cortisol delivery to better replicate the normal physiological levels of cortisol, particularly during the night.

There is a need for improved cortisol replacement

Indeed, with cortisol levels beginning to increase from 03:00-04:00, the prospect of waking patients, with already disturbed sleep patterns, to take an immediate release glucocorticoid preparation is far from ideal. With generic steroids delivered three times a day, there is room for improvement we believe. Chronocort is fine-tuned to deliver hydrocortisone to overcome the limitations of current hydrocortisone preparations.

Chronocort overcomes the limitations of current standard of care



Chronocort's protracted development

The development of Chronocort in Europe has been less than straightforward. After delivering overtly positive Phase 2 data, the Phase 3 result missed the primary endpoint. Consequently, Diurnal management quickly sought to rein in costs, halting the Phase 3 US CAH trial and pausing the US development of Chronocort in the AI indication. Fortunately, further analysis of the European Phase 3 data confirmed the ability of Chronocort to manage CAH in a physiologically relevant fashion which facilitated a regulatory filing to the EMA.

Further analysis of the Phase 3 data justified regulatory filing

Nevertheless, the current overhang on the Diurnal investment case is the outcome of the Chronocort EMA filing. Missing a primary endpoint in a Phase 3 study is never a good thing, but we believe that Diurnal management used the totality of the data to provide a strong case for regulatory approval by Q1 2021. Indeed, it is worth recapitulating on the data and the case for Chronocort in our initiation.

Phase 3 data supports approval

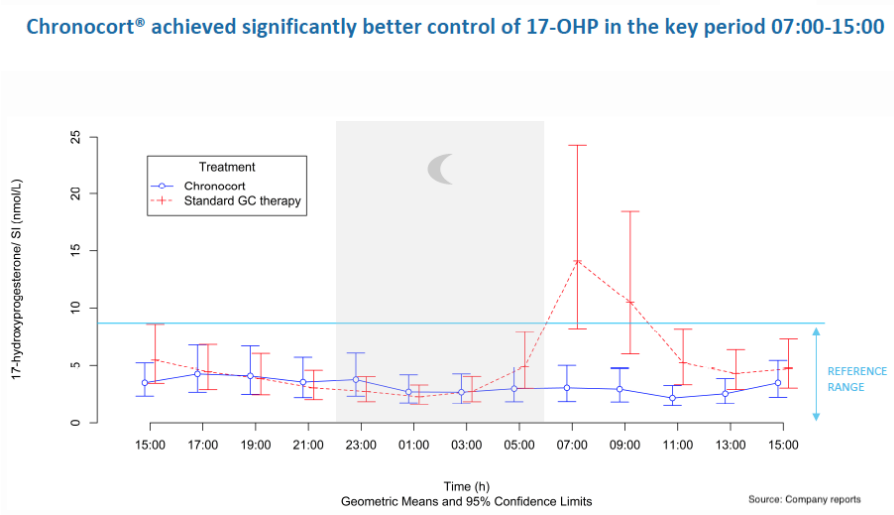
In both the Phase 2 and Phase 3 studies, the primary endpoint measured levels of 17-OHP – the main substrate for 21-hydroxylase and a widely recognised biochemical abnormality in CAH patients. Indeed, screening for CAH involves testing for elevated levels of 17-OHP. While we could agonise over the design of the European trial

Phase 3 endpoint flattered the control arm

and the choice of endpoint, we believe that the EMA Phase 3 primary endpoint (measuring the natural logarithm of the mean of the 24h standard deviation score) flattered the control arm.

Additionally, the use of treatment titration (at baseline 1, 3 and 6 months) we suspect levelled the playing field, and, notably, this particular aspect cannot be a feature of clinical practise nor is it part of the US trial design. Moreover, it is important to remember that the Phase 3 trial was the largest interventional study of its kind in CAH. Consequently, we suspect that the regulatory agencies will also have learnt a great deal from the data generated by Diurnal with Chronocort in this patient population.

Chronocort showed better control of 17-OHP



Nevertheless, and despite the endpoint challenges and the clear effectiveness of treatment titration in the placebo arm, Chronocort was still associated with clinically relevant benefits. In particular, Chronocort demonstrated significantly better control of 17-OHP over the important morning to mid-afternoon (07:00-15:00) period.

Chronocort shows meaningful benefit over standard of care

Hydrocortisone is well characterised and understood

It is also worth remembering that Chronocort administration was associated with several important observations when compared to standard of care. These included 1) lower variability, 2) control of androgens achieved on a lower dose (control of excess androgens is an important feature of treatment) 3) fewer sick days and 4) no (potentially life-threatening) adrenal crises. Importantly, hydrocortisone is a well-characterised and understood molecule from a regulatory and safety perspective.

In addition to the data at the primary endpoint, the EMA will also have the benefit of the data submitted from the safety extension study.

A high proportion of patients continued on Chronocort after the Phase 3 completed

One of the most reassuring aspects of the safety extension study was the high proportion (91 patients) who enrolled after completion of the Phase 3 study. At the most recent update, Diurnal reported that some patients had received Chronocort for 42 months and continued to benefit, with androgen control (and weight/BMI) maintained.

Diurnal filed for European marketing approval in December 2019

Based on these data, and following a positive meeting with EMA which confirmed the clinical and regulatory pathway for Chronocort, Diurnal submitted a regulatory application in December 2019. Notably, the filing also included data which confirmed the significant benefit associated with Chronocort to support its Orphan Drug Status, as well as relevance to other cortisol deficiency indications (AI for example). A decision is anticipated in Q1 2021.

Our forecasts for market introductions of Chronocort in the CAH indication broadly match company guidance. Given the lingering uncertainty associated with the EMA decision in Q1 2021, we have employed a 75% probability of approval. This figure reflects our view that this is not a binary situation and that Diurnal has amassed sufficient information to persuade the EMA of the safety and activity of Chronocort, that it provides a benefit over existing therapies and is therefore deserving of Orphan Drug Status.

Chronocort franchise sales (£m)	2020E	2021E	2022E	2023E	2024E	2025E
US						
Patient number	16816	17153	17496	17846	18202	18567
growth	2%	2%	2%	2%	2%	2%
Penetration	0%	0%	0%	0%	5%	12%
Price GBP	4968	5068	5169	5272	5378	5485
growth	2%	2%	2%	2%	2%	2%
Probability of success	75%	75%	75%	75%	75%	75%
Revenue	-	-	-	-	**3.67**	**9.17**
growth					0.0%	149.7%
Unrisked sales	**0.00**	**0.00**	**0.00**	**0.00**	**4.89**	**12.22**
EU						
Patient number	51620	52653	53706	54780	55875	56993
growth	2%	2%	2%	2%	2%	2%
Penetration	0%	2%	5%	15%	25%	30%
Price GBP	4500	4500	4500	4500	4500	4500
growth	0%	0%	0%	0%	0%	0%
Probability of success	75%	75%	75%	75%	75%	75%
Revenue	-	**3.55**	**9.06**	**27.73**	**47.14**	**57.71**
growth			155.0%	206.0%	70.0%	22.4%
Unrisked sales	**0.00**	**4.74**	**12.08**	**36.98**	**62.86**	**76.94**

Emerging competition in CAH

Competition increasing

As an orphan disorder, CAH is a very attractive market and competitive noise is increasing. The race to develop a treatment for CAH in the important US market is well developed with several companies seeking to be first to market. From Diurnal's perspective, discussions with the FDA were initially more protracted with a different study design. Although enrolment was paused post the result of the EMA Phase 3 study (lack of powering and cost), we believe that the ground has been well prepared facilitating a rapid restart when a partner is secured.

As a rare disorder the number of patients in the US is limited; however, we suspect this is a function of an orphan indication where there is a lack of effective treatments, with diagnosis only improving as new treatments are approved. Consequently, Chronocort should appeal to a broad range of potential commercial partners. Given the costs associated with the Phase 3 programme and the recruitment of a salesforce, we expect Diurnal to seek to attract a commercial partner for the US.

Chronocort will appeal to partners

We believe that Diurnal's approach is straightforward, seeking to replace lost cortisol levels in a physiological fashion to mimic the circadian rhythm. Our current assumption is that pricing will be relatively benign at circa $6000 per annum roughly in line with other branded treatments to date.

Other companies have chosen alternative approaches to reduce androgen levels without targeting replacement of cortisol. As novel treatments, perhaps pricing expectations are more in line with typical orphan drugs (which could be substantially higher than the $6000 that we have currently assumed for Chronocort. If that is the case, then Chronocort could offer a lower-cost alternative or an additional incremental cost if used in combination. Potentially, a partner may be able to deliver a compelling pharmaco-economic argument to justify attaining a higher price than our current assumption, more akin to other orphan treatments.

Pricing assumptions for Chronocort are conservative

The main target for pharmaceutical intervention elsewhere has been corticotropin-releasing factor type-1 (CRF-1). Although a programme targeting ACAT-1 (nevanimibe) was also being pursued, this was terminated following lacklustre clinical data.

Spruce and tildacerfont

Spruce Biosciences, for example, is pursuing a novel approach with tildacerfont, an orally available inhibitor of the CRF-1 receptor. Tildacerfont has completed Phase 2 evaluation, providing encouraging evidence of its ability to reduce levels of A4, 17-OHP and ACTH. Although primarily a safety study, 60% of CAH patients with increased ACTH and 40% of patients with elevated A4 benefited from a return to normal physiological levels after 12 weeks of treatment.

Tildacerfont moving into Phase 2b study

Tildacerfont is progressing into Phase 2b evaluation, seeking to identify an appropriate dose. As a measure of the potential of this approach and the increased awareness of the medical need in CAH, Spruce attracted an $88m investment from several healthcare investment funds in February 2020. This is an important programme for Spruce touting the potential for tildacerfont to be the first non-steroidal treatment for CAH.

Neurocrine and crinecerfont

Elsewhere, Neurocrine has a programme targeting CAH with its CRF-1 inhibitor crinecerfont. Similarly to Spruce, positive Phase 2 data showing effective androgen control have been reported. The encouraging data suggest that targeting CRF-1 is a valid and potentially valuable approach for CAH patients. Neurocrine is a well-established biopharma company with a focus on neurological disorders and appears well equipped to pursue the progress of crinecerfont. Indeed, crinecerfont has recently entered a single global registrational study in adult CAH patients and is in Phase 2 development in paediatric CAH patients. With similar approaches at similar stages of development, the race is on between Spruce and Neurocrine to deliver an approved therapy and enjoy the lead time exclusivity that comes with first to market for an orphan drug.

Crinecerfont in a global registration study

The requirement for replacement therapies will remain

Inevitably, the increased competitive noise associated with targeting CRF-1 has perhaps detracted from Diurnal's replacement therapy approach. However, these are alternative approaches and our assumption is that they will not be able to eliminate the need for steroid based treatments (such as Chronocort), as patients will still need to replace the cortisol which these alternative approaches do not address.

Patients will still need replacement therapies

The expectation of the originators is that targeting CRF-1 may facilitate using lower doses compared to the supraphysiological doses typically taken by many CAH sufferers. Theoretically, this could reduce the risk of side effects associated with high dose steroids (osteoporosis, cardiovascular & metabolic). It remains to be seen how these approaches (if successful) would combine with better optimised replacement approaches such as Chronocort. We suspect that a future partner would want to investigate a potential combination in order to optimally position Chronocort (as well as a CRF-1 inhibitor) in a therapeutic indication where the standard of care could be transformed over the next few years.

Partners may look to investigate combination approaches

Chronocort has broad applicability across adrenal insufficiency

We expect the cortisol replacement franchise to be a potentially very attractive partnering opportunity in the US. Although the initial focus is on the rare CAH indication, the cortisol deficiency market also includes the potentially more lucrative adrenal insufficiency (AI) indication. The broader adrenal insufficiency indication (Addison's disease and hypopituitarism), where many patients also suffer from poor control of their symptoms, should also be tractable to the circadian release profile of Chronocort. AI is a significantly larger market opportunity with Phase 1 trials completed. Successful approval of Chronocort in Europe should de-risk the cortisol

replacement programme generally, with a line extension suggesting a truncated route to approval in AI.

Autoimmune destruction of the adrenal glands (Addison's disease) represents the most frequent cause of primary adrenal insufficiency in the developed world (prevalence of 70%-90% of cases). There are several causative factors which include tuberculosis and other infectious diseases (HIV for example) as well as some drugs (e.g. ketoconazole). Secondary adrenal insufficiency (hypopituitarism) results from a defect in the production of corticotropin releasing hormone (CRH) or adrenocorticotropic hormone (ACTH). This is due to a malfunction of the pituitary or hypothalamus, which results in the underproduction of cortisol. The combined AI market opportunity (Addison's and hypopituitarism) in the US and Europe is circa $2.8bn. The AI indication represents a considerable opportunity for Diurnal with perhaps as many as 4.1m sufferers globally and should be as tractable as CAH to circadian delivery of cortisol. Indeed, there appears to be significant consternation within the endocrinologist community regarding the risks associated with current non-circadian delivery of high doses of hydrocortisone. This is particularly the case in the afternoon with an increased risk of infection and cardiovascular disease. Additionally, supraphysiological levels of hydrocortisone in the evening have been associated with a plethora of metabolic disorders including glucose intolerance, obesity, atherosclerosis, and insomnia.

The adrenal insufficiency market approaches $3bn in the US and Europe combined

A US partner for Chronocort

The US is where Diurnal is most likely to attract a partner for Chronocort for both CAH and AI. Looking to the US market potential for the AI opportunity, we are forecasting a 2025 introduction, recognising that the planned Phase 2 study has been paused. Nevertheless, we believe that the large size of the US market should further add to the general attraction of the Chronocort opportunity.

We expect a 2025 US market entry for Chronocort

Adrenal franchise sales (£m)

	2019A	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E
Alkindi sales US	-	-	0.31	0.65	1.26	1.75	2.74	3.42	3.56	3.70
Alkindi sales EU	1.02	2.39	3.99	6.92	9.60	9.99	10.39	10.81	11.25	11.70
Chronocort sales US	-	-	-	-	-	3.67	9.17	33.99	68.34	80.28
Chronocort sales EU	-	-	1.42	9.06	27.73	73.30	111.06	187.33	191.07	194.90
Adrenal franchise sales	1.02	2.39	5.72	16.63	38.60	88.71	133.36	235.55	274.22	290.58
Adrenal franchise sales unrisked	**1.02**	**2.39**	**6.20**	**19.65**	**47.84**	**131.81**	**209.01**	**391.31**	**458.23**	**488.38**

Source: Calvine Partners Research

Our assumptions on the AI programmes are conservative for now

We have assumed that two-thirds of patients are not controlled and available for Chronocort therapy. We have attributed a 50% probability of success to the AI programmes, which is likely conservative but will depend on the outcome of the EMA CAH review in Q1 2021. Given the size of the AI opportunity, even a 50% probability of approval suggests 2030E revenues of £115m in the US. On an unrisked basis, our peak sales forecast would be £231m.

Much more than cortisol deficiency

Following its objective of becoming a specialty pharma company with a focus on endocrinology (excluding diabetes), Diurnal is targeting testosterone deficiency as it relates to male hypogonadism. Testosterone is responsible for many facets of male development and behaviour, including increased muscle strength, bone mass, red blood cell production, as well as sexual prowess and aggressiveness. Normal physiological levels of testosterone vary significantly between different males, and levels decrease markedly after the age of 40 in most (but not all) men.

Testosterone Replacement Therapy

Testosterone Replacement Therapy a target for Diurnal

Given the aforementioned attributes associated with testosterone, it is perhaps unsurprising that testosterone replacement therapy (TRT) has become a very attractive proposition for many males including, more contentiously, those with apparently normal levels of testosterone. Testosterone also has a complex relationship with many organs, resulting in concerns regarding an increased risk of prostate cancer, increased cardiovascular risk and an impact on blood lipids (to name a few). Consequently, regulators, particularly in the US, are cognisant of the risk of off-label use and promotion given the size of the market opportunity.

What is clear is that there are many male patients with low levels of testosterone who would benefit from treatment for the negative effects of lower than normal physiological levels of testosterone – hypogonadal men. The most common symptoms of hypogonadism are reduced sexual desire and sexual activity, erectile dysfunction, and hot flushes. Other clinical factors associated with low testosterone include obesity, metabolic syndrome and a generally negative impact on overall health status. Less-specific symptoms include loss of physical strength and muscle mass, fatigue, mood changes, anger, sleep disturbance and cognitive impairment. Characteristic signs include gynaecomastia, smaller testes and less body hair.

Hypogonadism

Hypogonadism market growing at over 5% per annum

Hypogonadism is caused by testosterone deficiency and can be of central (hypothalamic or pituitary) or testicular origin, or both. Hypogonadism caused by testicular failure, as a result of genetic disorders such as Klinefelter's syndrome, trauma, radiation, chemotherapy, or undescended testes, is classified as hypergonadotropic hypogonadism (primary hypogonadism). Hypogonadism with gonadotropin deficiency or dysfunction, as a

result of disease or damage to the hypothalamic-pituitary axis, is known as hypogonadotropic hypogonadism (secondary hypogonadism). This may be caused by Kallmann's syndrome, cancer, trauma, radiation or sarcoidosis. In addition, older males may suffer from low testosterone with functional abnormalities at several levels of the hypothalamic-pituitary-testicular axis.

TRT has been a mainstay of both primary and secondary hypogonadism for several decades, and has generally been associated with good outcomes (increased sexual function, reduced body fat, increased lean muscle and better lipid profile). Importantly, many of these apparent benefits are reversed on TRT withdrawal, confirming the requirement for chronic therapy. While the weight of available evidence appears to suggest that TRT has not been associated with significant adverse events, we note that TRT comes with a black box label in the US. The label contains a cardiovascular risk warning, and TRT promotion in the US is limited to patients with hypogonadism linked to specific (structural or genetic) medical disorders. TRT is not indicated for the treatment of age-related hypogonadism – where significant off-label use has been experienced.

TRT has a boxed warning in the US

Existing treatments have the potential for abuse

Our perception is that these concerns are borne from worries regarding supraphysiological levels of testosterone. Indeed, athletes who abuse testosterone and other androgenic steroids have a sharply increased risk of high blood pressure, heart attack, and stroke. It is also worth highlighting that there are long-held concerns regarding the potential abuse of testosterone products, with oral products particularly at risk, given the heightened convenience. Nevertheless, TRT remains an effective mainstay of treatment for hypogonadism, returning patients to normal levels of testosterone.

TRT has the potential for abuse

Compliance rates with exiting treatments are poor

While TRT has been used for many decades (since the 1950s), due to the poor bioavailability of oral testosterone, the market has been dominated by topical formulations (such as Androgel) and injectable products. It should be noted that compliance rates with injectable and gel formulations have generally been poor. Administration of injectable products can be painful, while topical formulation can be associated with skin reactions and transference to women and children (Blackbox warning of virilisation).

Injectable and topical products have limitations

Jatenzo

Oral formulations of testosterone have been available for some time outside the US. However, until the approval of Jatenzo the only approved oral product in the US was a 17-alpha-alkyl preparation

methyltestosterone (Android). Methyltestosterone, a longstanding oral therapy, has been associated with significant liver toxicity and, as a result, has not been widely used.

The development of non-17-alpha-alkyl treatments has been problematic

The development of the first non-17-alpha-alkyl based oral testosterone treatments in the US (Jatenzo & Tlando) was protracted and problematic. While Tlando has received three FDA rejections so far, Jatenzo was ultimately approved (after two negative AdCom votes). Initially submitted by Clarus in 2014, it wasn't until 2019 that the product was finally approved. After Jatenzo's initial rejection by FDA, to deal with concerns, a second Phase 3 study was needed which included food effect data, a revised starting dose and titration regimen, plus ambulatory blood pressure monitoring.

Jatenzo has limitations

Jatenzo needs to be taken with high-fat meals

Jatenzo (testosterone undecanoate) is a prodrug, and it uses the intestinal lymphatic pathway, bypassing the liver and reducing the risk of hepatotoxicity. Hepatotoxicity had blighted acceptance of previous oral formulations such as methyltestosterone, and this reduced risk resulted in Jatenzo's exalted status as the first oral soft gel TRT. Although Jatenzo represents a significant improvement in convenience, it does have some limitations. Looking at the prescribing label, Jatenzo needs to be taken at the same time as meals (fasted administration not being a viable option), and we note that it can result in supraphysiological levels of dihydrotestosterone (DHT) while testosterone levels can be variable. Given the potential cardiovascular issues associated with treatment of hypogonadal patients, the need for a high-fat diet is clearly less than optimal while there may be a link between supraphysiological levels of DHT and heightened cardiovascular risk (left ventricular hypertrophy).

Diurnal's DITEST

DITEST Phase 1 result encouraging

DITEST is a native testosterone which has been formulated for oral administration but designed to provide normal physiological levels of testosterone irrespective of the need for food. Potentially, DITEST should overcome some of the limitations associated with the current TRT profile of testosterone undecanoate. In a Phase 1 study, Diurnal has confirmed the differentiated nature of DITEST compared to testosterone undecanoate.

The primary endpoint of the small proof of concept study was to compare the rate and extent of absorption of testosterone from 120mg DITEST administration with a single dose of testosterone undecanoate 80mg in hypogonadal men after eating Encouragingly, DITEST administration was associated with achievement of testosterone levels within the normal physiological range for young adults, and with less variability compared to the comparator.

Secondary endpoints also showed that there was no impact on absorption of testosterone with DITEST irrespective of whether it was taken with food. The result confirmed the higher convenience associated with the DITEST formulation. From a safety perspective, there were no serious adverse events from DITEST administration. Encouragingly levels of the potent testosterone derived androgen, dihydrotestosterone (DHT), were lower when compared to the comparator.

DITEST's clinical development can be streamlined

505(b)(2) pathway will expedite DITEST development

Our initial view of on DITEST was that having just completed a Phase 1 study these are relatively early days. However, it is important to bear in mind that the market for testosterone replacement is well understood and native testosterone is a well-characterised molecule. Importantly, discussions with the FDA have confirmed that DITEST can be developed using the branded generic pathway (505(b)(2)). This is important as it means that clinical development can be significantly streamlined. The 505(b)(2) pathway is associated with significantly lower costs and risks than traditional drug development. Effectively, Diurnal (and a potential partner) can take advantage of data previously provided by other testosterone-based products as it seeks to provide a regulatory package that fulfils the Agency's requirement that DITEST is safe and efficacious.

DITEST has the potential to be a blockbuster

DITEST is more convenient

TRT is a large market opportunity with approximately 6% of US males affected by low levels of testosterone (approx. 4-5m men). Diagnosis of testosterone deficiency however is subjective with variable testosterone thresholds used globally (200-400ng/dl with FDA 300ng/dl) while others are more focussed on the presenting clinical symptoms. There is a very clear need for more convenient preparations than topical or injectable products and oral products with fewer limitations.

US TRT market worth £1.5bn

Currently, DITEST has not been included in our Diurnal financial model or valuation given its relatively early stage of development. However, our analysis suggests that even a modest penetration of circa 3% of the US TRT market highlights in-market sales in the region of £1.5bn (see table below).

Native Oral Testosterone	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
US								
Patient number (m)	4.66	4.76	4.85	4.95	5.05	5.15	5.25	5.36
growth	2%	2%	2%	2%	2%	2%	2%	2%
Penetration	0%	0%	1%	2%	3%	3%	3%	3%
Price GBP	8335	8501	8671	8845	9022	9202	9386	9574
growth	2%	2%	2%	2%	2%	2%	2%	2%
Revenue	-	-	**420.7**	**875.4**	**1,138.4**	**1,421.3**	**1,478.7**	**1,538.5**
growth				108.1%	30.1%	24.8%	4.0%	4.0%
Royalty rate			10.0%	12.0%	13.0%	14.0%	15.0%	16.0%
Royalty			**42.1**	**105.0**	**148.0**	**199.0**	**221.8**	**246.2**
EU								
Patient number	4.06	4.14	4.22	4.31	4.39	4.48	4.57	4.66
growth	2%	2%	2%	2%	2%	2%	2%	2%
Penetration	0%	0%	1.0%	1.2%	2.0%	2.2%	2.5%	2.5%
Price GBP	4500	4500	4590	4682	4775	4871	4968	5068
growth	0%	0%	2%	2%	2%	2%	2%	2%
Revenue	-	-	**91.80**	**93.64**	**95.51**	**97.42**	**99.37**	**101.35**
growth				2.0%	2.0%	2.0%	2.0%	2.0%
Royalty rate			10.0%	12.0%	13.0%	14.0%	15.0%	16.0%
Royalty			**9.18**	**11.24**	**12.42**	**13.64**	**14.91**	**16.22**
Total unrisked sales (£m)			**512.5**	**969.0**	**1233.9**	**1518.7**	**1578.1**	**1639.8**
Total royalty to Diurnal (£m)			**51.2**	**116.3**	**160.4**	**212.6**	**236.7**	**262.4**

Source Calvine Partners Research

Diurnal should be able to partner DITEST

Given the challenges faced in diagnosis, concerns over abuse and the significantly higher prescribing of TRT in the US over Europe, we believe that a development partner with relevant experience will be required to drive uptake and reach our market expectations in the relevant patient populations. Given the size of the opportunity, we believe that Diurnal should be able to deliver a suitable commercial development partner particularly given the well defined low-risk pathway agreed with FDA as well as the positive Phase 1 data.

Risks

The principal risks associated with Diurnal are largely clinical and commercial in nature. The failure of the European Phase 3 study for Chronocort was an unexpected disappointment although a review of the data has suggested significant support for Diurnal's approach. While we hope that the EMA will be pragmatic in its approach to reviewing the data there are lingering risks in this approach.

Diurnal has retained European rights to its adrenal disorder franchise, which brings commercialisation risks. We note that Diurnal has engaged the services of Ashfield, which has a successful track record in helping life science companies launch new products. Nevertheless, the pace of uptake is difficult to predict which could affect out forecasts although we recognise that market expectations for Alkindi are modest.

If successful, and Chronocort ultimately achieves a market introduction, Diurnal is seeking to launch its products into what is largely a generic market environment. We have assumed a price for Chronocort that is consistent with the European price of Plenadren – a once daily formulation of hydrocortisone which looks to be a reasonable proxy. We note that in this regard there is no equivalent product in the US. With Diurnal looking to partner its products in the US, there is an associated partnering risk.

As a development stage company, Diurnal is currently a loss making enterprise. Diurnal has successfully raised funds to continue with its development plans and to aid the launch of Alkindi in Europe. Even with this near term funding, our forecasts suggest that in order to progress its pipeline assets expeditiously, Diurnal may require additional funding.

Summary and Financial Model

A commercial infrastructure is already in place

The development of Alkindi has brought Diurnal an early revenue stream and a commercial platform in Europe. In the US, Alkindi has been partnered with Eton Pharmaceuticals negating the need for Diurnal to set up its own commercial infrastructure. The roll-out of Alkindi in Europe has been predictably slow, but steady progress in achieving satisfactory reimbursement has resulted in an acceleration of product sales revenues, albeit from a low base. Diurnal has been suitably cautious in defining the market potential for Alkindi, with an expectation that end market sales could be in the region of $50m. It will be interesting to see how successful Eton Pharmaceuticals is at capturing the US market opportunity.

Alkindi revenues are important

There is a growing interest in CAH

The revenues generated by Alkindi are helpful as the company seeks to defer the cost of pipeline development. Cash burn has been managed effectively with the US Chronocort Phase 3 trial paused (and the Phase 2 AI trial stopped) until a suitable partner can be secured. There is clearly growing interest in developing treatments for the orphan disorder CAH, with our expectation that these look like complementary efforts to the cortisol replacement approach pursued by Diurnal.

Combination trials would be a positive step

Complementary approaches should help to develop the market for all participants

Indeed, we believe it would be helpful for all concerned if combination trials between various complementary approaches were conducted, and we would view such a collaboration positively. Success here would not only help to optimally position these products in the eyes of physicians it may also help to expand the market as various protagonists seek to gain a leadership position in this emerging therapeutic area. In the longer term, we believe that a more significant opportunity for Chronocort lies with the adult AI indication. It is unfortunate that the company's ambition to fully explore Chronocort's capabilities in AI in the US was undone by cost curtailment efforts post the failure of the European Phase 3 study. Nevertheless, given the interest in endocrinology generally, perhaps future clinical development of Chronocort is best left to a deep-pocketed development partner.

DITEST offers major upside

Following positive DITEST Phase 1 data and feedback from FDA confirming the foreshortened development pathway, Diurnal should be well set to secure a development partner to take this programme forward. The market opportunity is clearly large for the most convenient and effective product, especially given limitations associated with available treatments.

DITEST should have a competitive advantage

It remains to be seen whether the advantages witnessed in Phase 1 can be further developed through later stage trials. Our expectation is that if successful, DITEST could secure a label which highlights the lack of requirement to take with food. Such a label would further increase the convenience benefit and compliance of an oral treatment in a market still dominated by topical and injectable treatments. As mentioned previously, DITEST has not been included in our financial model or valuation, despite positive proof-of-concept data and the 505(b)(2) agreement with the FDA. This suggests both significant upside to Diurnal's cash position should a partner be secured with a suitable upfront payment, as well as a significant uplift in valuation once included.

Diurnal is well capitalised

Diurnal has enough cash through to profitability

Diurnal has stated that it has sufficient cash to take the cortisol deficiency franchise through to sustainable profitability. This requires a positive outcome regarding the EMA regulatory review for Chronocort in CAH, anticipated in Q1 2021. With the European commercial platform for the cortisol replacement franchise already in place, we would hope that Chronocort should have a less protracted roll-out, especially given the need and its likely Orphan Drug Status.

Additional funding will allow PoC for hypothyroidism and Cushing's disease programmes

Despite its ambitions to partner DITEST, our forecasts assume that Diurnal continues its DITEST development in-house, and this results in an increase in R&D spend at the company. The recent capital raise has left Diurnal well-capitalised with circa £15.4m in cash (30 June 2020). However, as highlighted by the company, further development of other programmes such as DITEST will require more funding. The earlier stage programmes targeting hypothyroidism and Cushing's disease represent substantial market opportunities and currently sit outside of our financial model and valuation.

With additional resources, we look forward to Diurnal delivering evidence of potential in these programmes. We note that it is a fine balance between maximising the profitability of the adrenal franchise and investing behind an earlier stage pipeline. However it is worth bearing in mind that with the achievement of proof of principle, our expectation is that these programmes should provide significant upside risk given the company's execution to date, and a combined market potential of $1.5bn. For us, we believe that attracting additional funding to progress the earlier stage pipeline not only diversifies risk, it should allow the company to ultimately leverage off existing investments in sales and marketing infrastructure.

Diurnal Income Statement (£m)												
Year to June	**2019A**	**2020A**	**2021E**	**2022E**	**2023E**	**2024E**	**2025E**	**2026E**	**2027E**	**2028E**	**2029E**	**2030E**
Sales	**1.04**	**6.31**	**5.72**	**16.63**	**38.60**	**88.71**	**133.36**	**235.55**	**274.22**	**290.58**	**346.06**	**372.54**
COGS	(0.22)	(0.67)	(1.72)	(4.16)	(7.72)	(17.74)	(26.67)	(47.11)	(54.84)	(58.12)	(69.21)	(74.51)
Gross profit	**0.82**	**5.65**	**4.01**	**12.47**	**30.88**	**70.97**	**106.69**	**188.44**	**219.38**	**232.46**	**276.85**	**298.03**
gross margin	21.5%	10.6%	70.0%	75.0%	80.0%	80.0%	80.0%	80.0%	80.0%	80.0%	80.0%	80.0%
SG&A	(6.66)	(7.04)	(7.44)	(8.65)	(11.58)	(17.74)	(33.34)	(58.89)	(68.56)	(72.64)	(86.52)	(93.13)
R&D	(8.69)	(4.63)	(10.21)	(11.64)	(15.44)	(22.18)	(26.67)	(35.33)	(41.13)	(43.59)	(51.91)	(55.88)
Other operating income	0.00	0.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operating profit	**(14.53)**	**(5.39)**	**(13.64)**	**(7.82)**	**3.86**	**31.05**	**46.68**	**94.22**	**109.69**	**116.23**	**138.43**	**149.02**
Finance income	0.13	0.11	0.15	0.02	(0.05)	(0.02)	0.21	0.58	1.29	2.12	3.02	4.07
Finance expense	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PBT	**(14.40)**	**(5.28)**	**(13.49)**	**(7.79)**	**3.81**	**31.03**	**46.89**	**94.80**	**110.98**	**118.36**	**141.44**	**153.08**
Tax	2.11	1.21	0.00	0.00	(0.95)	(7.76)	(11.72)	(23.70)	(27.74)	(29.59)	(35.36)	(38.27)
Net income	**(12.29)**	**(4.07)**	**(13.49)**	**(7.79)**	**2.86**	**23.27**	**35.17**	**71.10**	**83.23**	**88.77**	**106.08**	**114.81**
EPS Basic (p)	-19.70	-4.30	-11.10	-6.41	2.35	19.13	28.92	58.46	68.44	72.99	87.22	94.40
EPS Diluted (p)	**-19.70**	**-4.30**	**-11.10**	**-6.41**	**2.35**	**19.13**	**28.92**	**58.46**	**68.44**	**72.99**	**87.22**	**94.40**

Source: Calvine Partners Research

We expect positive operational cash flow from 2023

We forecast that Diurnal will remain loss-making until 2023. Similarly, our cash flow forecasts also suggest that the company will provide positive operational cash flow from the same period. At the same time, we expect that management will carefully control costs to match the increase in revenues as per guidance. Our forecasts remain conservative as we await the outcome of the EMA deliberations on Chronocort; if this is successful we will increase the probability adjustment from 75% to 100%.

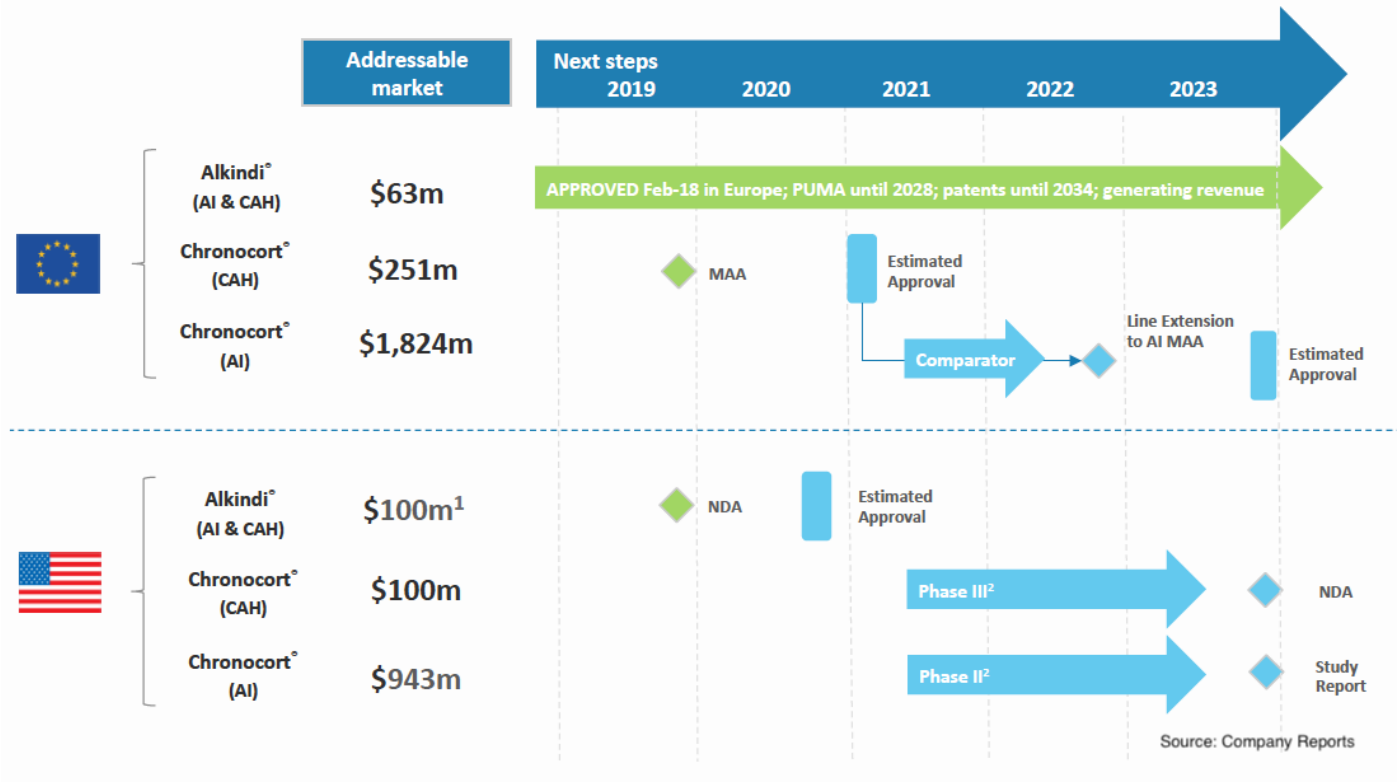
Partner potential

Commercial partnerships will allow Diurnal to progress other programmes

Additionally, the attraction of a commercial partner to fund the US development of Chronocort, and a partner for DITEST, should also provide upfront payments boosting the cash position and allowing Diurnal to further progress the earlier stage programmes.

An abundance of catalysts

Nevertheless, Diurnal sits at the cusp of a period rich in both clinical and commercial achievements.



FDA action date on Alkindi this month

The first measure of delivering on this timeline will be the forthcoming US regulatory action on Alkindi with an action date of 29 September 2020. 2021 promises to be a year of significant accomplishments with the most important being the outcome of EMA deliberations on Chronocort. Commencement of the US CAH and AI programmes (Phase 3 and Phase 2 respectively) are also anticipated.

Valuation

As a currently loss-making entity and given the potential of the pipeline to deliver several new approvals in the future, we believe that the best way to capture the future value is through the use of a DCF based valuation. In general, we believe that early stage venture investments in this sector should employ a 35% discount rate, while long-established pharmaceutical companies with a strong record of cash generation are deserving of a lower discount rate of circa 8.5%.

A 20% discount rate yields a DCF valuation of 99p

With Chronocort moving towards regulatory action in Europe and Alkindi approved in Europe, Diurnal is a late stage company. There remains some uncertainty with respect to Chronocort approval and the US opportunity. As a result, we have used a 20% discount rate to generate our NPV of 99p. Confirmation of Chronocort approval and its progress would suggest a lower discount rate and upside risk to our NPV.

Diurnal Group Discounted Cash Flow Matrix

Valuation (£ per share)

	Growth				
	1%	**2%**	**3%**	**4%**	**5%**
Discount rate					
10%	1.88	2.1	2.39	2.77	3.3
12.50%	1.48	1.62	1.78	1.98	2.24
15%	1.22	1.31	1.41	1.54	1.69
17.50%	1.03	1.09	1.17	1.26	1.36
20%	0.89	0.94	0.99	1.06	1.13
22.50%	0.78	0.82	0.86	0.91	0.96
25%	0.69	0.72	0.76	0.8	0.84
27.50%	0.62	0.64	0.67	0.71	0.74
30%	0.56	0.58	0.61	0.63	0.66

Source Calvine Partners Research

Diurnal Group Cash Flow Statement

Diurnal Cash Flow (£m)							
Year to June	**2019A**	**2020A**	**2021E**	**2022E**	**2023E**	**2024E**	**2025E**
Net income	(12.29)	(4.07)	(13.49)	(7.79)	2.86	23.27	35.17
Licensing income received as non-cash		(1.04)					
Fair value adjustment to investments		(0.63)					
Dep/Amort/Impair	0.02	0.03	0.01	0.01	0.01	0.02	0.04
Share- based payment	0.83	0.84	0.84	0.84	0.84	0.84	0.84
Net Fx gain	(0.01)	(0.36)					
Financial income	(0.13)	(0.11)	(0.15)	(0.02)	0.05	0.02	(0.21)
Financial expense	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tax	(2.11)	(1.21)	0.00	0.00	0.95	7.76	11.72
(Increase) in receivables	1.36	0.12	0.01	(0.11)	(0.22)	(0.50)	(0.45)
Increase in payables	(3.14)	0.07	0.10	0.10	0.14	0.40	0.36
(Increase) in inventories	(0.55)	(0.57)	(0.14)	(0.49)	(0.71)	(0.23)	0.44
Interest paid	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Tax paid/ received	2.28	2.12	0.00	0.00	(0.95)	(7.76)	(11.72)
CFO	(13.74)	(4.81)	(12.83)	(7.47)	2.97	23.83	36.18
PP&E	(0.03)	(0.01)	(0.01)	(0.01)	(0.08)	(0.10)	(0.17)
R&D capitalised	(0.04)	(0.04)					
Investments	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Interest received	0.13	0.11	0.15	0.02	(0.05)	(0.02)	0.21
CFI	0.07	0.07	0.15	0.02	(0.13)	(0.12)	0.04
Net proceeds from issuance of share capital	5.53	10.67	0.00	0.00	0.00	0.00	0.00
Repayment of borrowings	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net proceeds from new borrowings	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
CFF	5.53	10.67	0.00	0.00	0.00	0.00	0.00
Increase in cash	(8.15)	5.93	(12.68)	(7.45)	2.83	23.71	36.22
Cash brought forward	**17.28**	**9.14**	**15.07**	**2.39**	**(5.06)**	**(2.23)**	**21.48**
Fx		0.36					
Cash EOP	**9.14**	**15.07**	**2.39**	**(5.06)**	**(2.23)**	**21.48**	**57.70**

Source: Calvine Partners Research

Diurnal Group Balance Sheet

Diurnal Balance Sheet (£m) Year to June	2019A	2020A	2021E	2022E	2023E	2024E	2025E
Intangible assets	0.05	0.08	0.01	0.01	0.01	0.01	0.01
PP&E	0.03	0.02	0.02	0.02	0.10	0.17	0.31
Inv held at fair value through P&L		1.67	1.67	1.67			
Non-current assets	0.08	1.77	1.69	1.69	0.10	0.18	0.32
Trade and other receivables	3.56	2.53	0.06	0.17	0.39	0.89	1.33
Inventory	0.67	1.24	0.34	0.83	1.54	1.77	1.33
Financial assets	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cash & Cash equivalents	9.15	15.43	2.39	(5.06)	(2.23)	21.48	57.70
Current assets	13.38	19.21	2.79	(4.07)	(0.30)	24.14	60.37
Total Assets	**13.46**	**20.98**	**4.48**	**(2.37)**	**(0.20)**	**24.32**	**60.69**
Loans and borrowings	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Trade and other payables	(2.50)	(2.56)	0.07	0.17	0.31	0.71	1.07
Current liabilities	(2.50)	(2.56)	0.07	0.17	0.31	0.71	1.07
Loans and borrowings	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Trade and other payables	(0.02)	(0.04)	(0.05)				
Non-current liabilities	(0.02)	(0.04)	(0.05)	0.00	0.00	0.00	0.00
Total Liabilities	**(2.52)**	**(2.59)**	**0.02**	**0.17**	**0.31**	**0.71**	**1.07**
Share capital	4.23	6.08	6.08	6.08	6.08	6.08	6.08
Share premium	42.15	50.97	50.97	50.97	50.97	50.97	50.97
Consolidation reserve	(2.94)	(2.94)	(2.94)	(2.94)	(2.94)	(2.94)	(2.94)
Other reserve	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Retained earnings	(32.49)	(35.72)	(48.71)	(56.01)	(52.65)	(28.88)	6.79
Total equity	**10.94**	**18.39**	**5.39**	**(1.90)**	**1.45**	**25.23**	**60.89**

Source: Calvine Partners Research

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